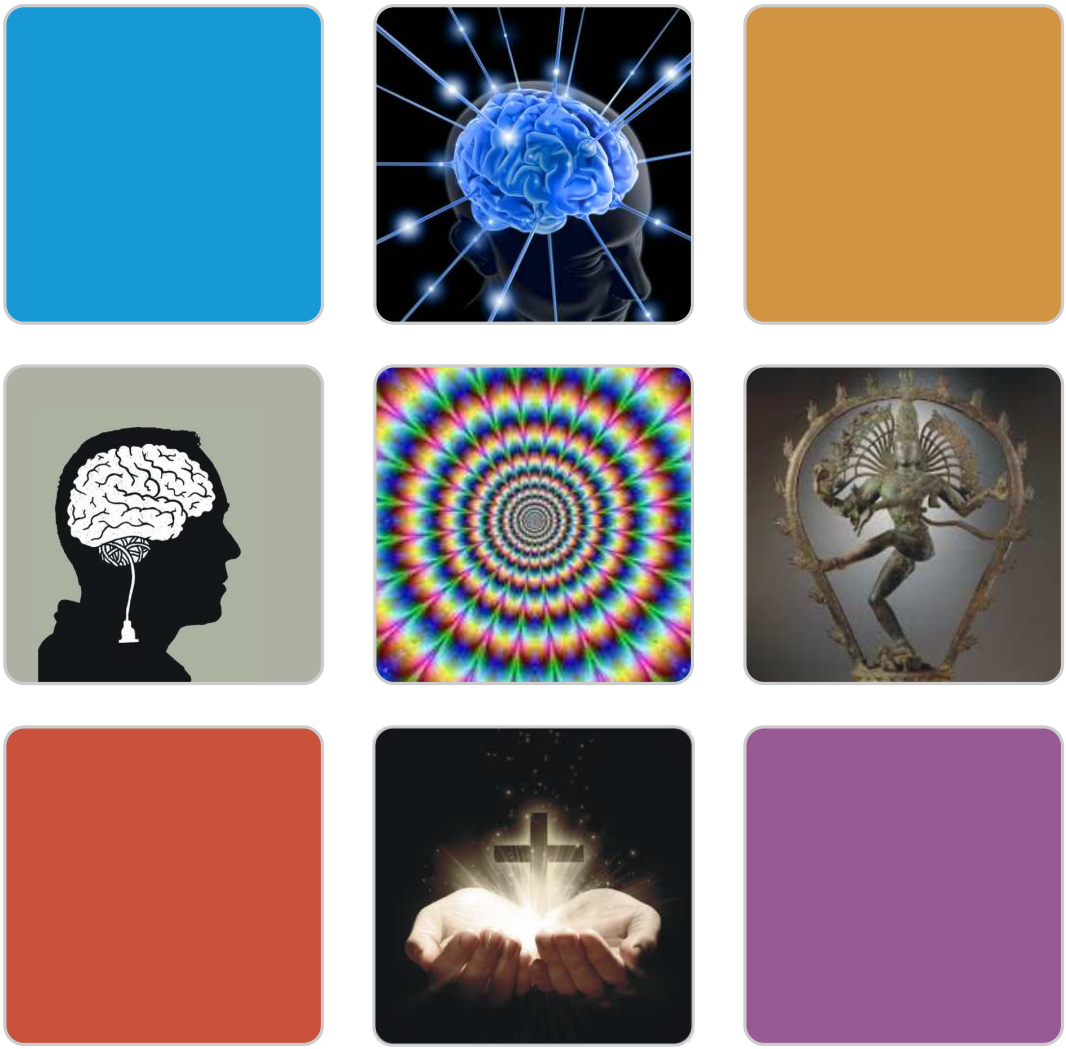
The Spiritual and Religious Brain

Brain as an Archaeal Colony with Neanderthal Metabolonomics - a Cerebellar Dominant Quantal Perceptive Brain

Ravikumar Kurup and Parameswara Achutha Kurup



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Contents

♦♦♦ Chapter 1 ♦♦♦

The Archaeal Induced Spiritual and Evil Brain

Introduction

The global warming produces increased acidity and atmospheric carbon dioxide resulting in extremophilic archaeal symbiosis in humans. The archaeal symbiosis results in neanderthalisation of humans. The archaea induced uncoupling proteins producing the primitive Warburg phenotype and stem cell metabolonomics. The archaeal metabolites of cholesterol digoxin, bile acids and short chain fatty acids induce uncoupling proteins. The lysosomal enzymes a marker of stem cell conversion are markedly increased along with genesis of the archaeal phenotype in metabolic syndrome x, degenerations, autoimmune diseases, cancer, schizophrenia and autism. In all these systemic diseases there is somatic cell transformation to stem cell and lose of function. The neurons become immature and lose their dendritic spines and connectivity. This results in loss of neuronal function and reversion to archaeal magnetite mediated extrasensory perception of low level of EMF. Exposure to low level of EMF results in brain changes. This results in prefrontal cortex atrophy. The primitive brain areas of cerebellum and brain stem become hypertrophic. The somatic and neuronal cell proliferates and there is neanderthalisation of the brain and body[1-17].

The idea of goodness is based on reason and logic. Reason judgment and logic is a function of the cerebral cortex especially the prefrontal lobe. Prefrontal lobe function needs dynamic synaptic connectivity which is produced by jumping genes mediated by human endogenous retroviral sequences. Goodness is correlated with heaven. The idea of evil is based on the unconscious and the impulsive behavior related to subcortical areas especially the cerebellum. The cerebellum is the site of impulsive behavior and the unconscious behavior. The cerebellar and subcortical brain connections are predominantly archaeal colony networks. The idea of evil is related to hell. The

idea of conscious judgmental acts and unconscious impulsive acts, heaven and hell, goodness and evil are juxtapositions. The global warming and exposure to low level of EMF leads to actinidic archaeal growth in the brain and increased archaeal magnetite mediated perception of low level of EMF. This leads to prefrontal cortex atrophy and cerebellar dominance. The conscious becomes minimal and unconscious brain takes over. The study assessed archaeal growth as assessed by cytochrome F420 activity and stem cell type metabolonomics in systemic diseases, neuropsychiatric disorders and normal individuals with differing psychological profile – prisoners, creative individuals and common sense modulated business men[1-17]. The results are presented in this paper.

Materials and Methods

The blood samples were drawn from four groups of psychological different population spiritually inclined, criminal prisoners, creative artists and business men. There were 15 members in each group. The blood samples were also drawn from 15 cases each of metabolic syndrome, degenerations – Alzheimer's disease, autoimmune disease – SLE, cancer – brain glioma, schizophrenia and autism. The estimations done in the blood samples collected include cytochrome F420 activity. Blood lactate, pyruvate, hexokinase, cytochrome C, cytochrome F420, digoxin, bile acids, butyrate and propionate were estimated.

Results

The results showed that the spiritual, artistic creative individuals and criminal prisoners had increased cytochrome F420 activity and RBC digoxin levels. The results showed that the businessmen had decreased cytochrome F420 activity and RBC digoxin levels. The blood samples of Alzheimer's disease, autoimmune disease – SLE, cancer – brain glioma, schizophrenia and autism had increased

blood lactate and pyruvate, increased RBC hexokinase, increased serum cytochrome C and serum cytochrome F420, increased serum digoxin, bile acids, butyrate and propionate. The disease state had increased cytochrome F420 activity. The serum cytochrome C levels in the blood were increased. This suggested mitochondrial dysfunction. There was an increased in glycolysis as suggested by increased RBC hexokinase activity and lactic acidosis. Owing to the mitochondrial dysfunction and pyruvate dehydrogenase inhibition there was pyruvate accumulation. The pyruvate was converted to lactate by the Cori cycle and also to glutamate and ammonia. This metabolism is suggestive of the Warburg phenotype and stem cell conversion. The stem cells depend on Warburg anaerobic glycolysis for energetics and have a mitochondrial dysfunction. The lysosomal enzyme beta galactosidase activity was increased in the disease group and in creative artists and criminals suggesting stem cell conversion. This suggests that artistic creative, criminal prisoners as well as spiritual individuals tend to have stem cell metabolonomics and stem cell conversion.

Table 1

Group	Cytochrome F420		Serum cyto C (ng/ml)		Lactate (mg/dl)		Pyruvate (umol/l)		RBC hexokinase (ug glu phos/ hr/mgpro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal population	1.00	0.00	2.79	0.28	7.38	0.31	40.51	1.42	1.66	0.45
Spiritual	4.00	0.00	12.39	1.23	25.99	8.10	100.51	12.32	5.46	2.83
Acquisitive capitalist	0.00	0.00	1.21	0.38	2.75	0.41	23.79	2.51	0.68	0.23
Artistic	4.00	0.00	12.84	0.74	23.64	1.43	96.19	12.15	10.12	1.75
Criminality	4.00	0.00	12.72	0.92	25.35	5.52	103.32	13.04	9.44	3.40
Schizo	4.00	0.00	11.58	0.90	22.07	1.06	96.54	9.96	7.69	3.40
Seizure	4.00	0.00	12.06	1.09	21.78	0.58	90.46	8.30	6.29	1.73
HD	4.00	0.00	12.65	1.06	24.28	1.69	95.44	12.04	9.30	3.98
AD	4.00	0.00	11.94	0.86	22.04	0.64	97.26	8.26	8.46	3.63
MS	4.00	0.00	11.81	0.67	23.32	1.10	102.48	13.20	8.56	4.75
SLE	4.00	0.00	11.73	0.56	23.06	1.49	100.51	9.79	8.02	3.01
NHL	4.00	0.00	11.91	0.49	22.83	1.24	95.81	12.18	7.41	4.22

Group	Cytochrome F420		Serum cyto C (ng/ml)		Lactate (mg/dl)		Pyruvate (umol/l)		RBC hexokinase (ug glu phos/ hr/mgpro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Glio	4.00	0.00	13.00	0.42	22.20	0.85	96.58	8.75	7.82	3.51
DM	4.00	0.00	12.95	0.56	25.56	7.93	96.30	10.33	7.05	1.86
CAD	4.00	0.00	11.51	0.47	22.83	0.82	97.29	12.45	8.88	3.09
CVA	4.00	0.00	12.74	0.80	23.03	1.26	103.25	9.49	7.87	2.72
AIDS	4.00	0.00	12.29	0.89	24.87	4.14	95.55	7.20	9.84	2.43
CJD	4.00	0.00	12.19	1.22	23.02	1.61	96.50	5.93	8.81	4.26
Autism	4.00	0.00	12.48	0.79	21.95	0.65	92.71	8.43	6.95	2.02
DS	4.00	0.00	12.79	1.15	23.69	2.19	91.81	4.12	8.68	2.60
Cerebral Palsy	4.00	0.00	12.14	1.30	23.12	1.81	95.33	11.78	7.92	3.32
CRF	4.00	0.00	12.66	1.01	23.42	1.20	97.38	10.76	7.75	3.08
Cirr/Hep Fail	4.00	0.00	12.81	0.90	26.20	5.29	97.77	13.24	8.99	3.27
Low level background radiation	4.00	0.00	12.26	1.00	23.31	1.46	103.28	11.47	7.58	3.09
F value	0.001		445.772		162.945		154.701		18.187	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 2

Group	ACOA (mg/dl)		Glutamate (mg/dl)		Se. ammonia (ug/dl)		RBC digoxin (ng/ml RBC Susp)		Beta galactosidase activity in serum (IU/ml)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal population	8.75	0.38	0.65	0.03	50.60	1.42	0.58	0.07	17.75	0.72
Spiritual	2.51	0.36	3.19	0.32	93.43	4.85	1.41	0.23	55.17	5.85
Acquisitive capitalist	16.49	0.89	0.16	0.02	23.92	3.38	0.18	0.05	8.70	0.90
Artistic	2.51	0.42	3.11	0.36	92.40	4.34	1.40	0.32	46.37	4.87
Criminality	2.19	0.19	3.27	0.39	95.37	5.76	1.51	0.29	47.47	4.34
Schizo	2.51	0.57	3.41	0.41	94.72	3.28	1.38	0.26	51.17	3.65
Seizure	2.15	0.22	3.67	0.38	95.61	7.88	1.23	0.26	50.04	3.91
HD	1.95	0.06	3.14	0.32	94.60	8.52	1.34	0.31	51.16	7.78
AD	2.19	0.15	3.53	0.39	95.37	4.66	1.10	0.08	51.56	3.69
MS	2.03	0.09	3.58	0.36	93.42	3.69	1.21	0.21	47.90	6.99
SLE	2.54	0.38	3.37	0.38	101.18	17.06	1.50	0.33	48.20	5.53
NHL	2.30	0.26	3.48	0.46	91.62	3.24	1.26	0.23	51.08	5.24
Glio	2.34	0.43	3.28	0.39	93.20	4.46	1.27	0.24	51.57	2.66

Group	ACOA (mg/dl)		Glutamate (mg/dl)		Se. ammonia (ug/dl)		RBC digoxin (ng/ml RBC Susp)		Beta galactosidase activity in serum (IU/ml)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
DM	2.17	0.40	3.53	0.44	93.38	7.76	1.35	0.26	51.98	5.05
CAD	2.37	0.44	3.61	0.28	93.93	4.86	1.22	0.16	50.00	5.91
CVA	2.25	0.44	3.31	0.43	103.18	27.27	1.33	0.27	51.06	4.83
AIDS	2.11	0.19	3.45	0.49	92.47	3.97	1.31	0.24	50.15	6.96
CJD	2.10	0.27	3.94	0.22	93.13	5.79	1.48	0.27	49.85	6.40
Autism	2.42	0.41	3.30	0.32	94.01	5.00	1.19	0.24	52.87	7.04
DS	2.01	0.08	3.30	0.48	98.81	15.65	1.34	0.25	47.28	3.55
Cerebral Palsy	2.06	0.35	3.24	0.34	92.09	3.21	1.44	0.19	53.49	4.15
CRF	2.24	0.32	3.26	0.43	98.76	11.12	1.26	0.26	49.39	5.51
Cirr/Hep Fail	2.13	0.17	3.25	0.40	94.77	2.86	1.50	0.20	46.82	4.73
Low level background radiation	2.14	0.19	3.47	0.37	102.62	26.54	1.41	0.30	51.01	4.77
F value	1871.04		200.702		61.645		60.288		194.418	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Discussion

The systemic diseases and neuropsychiatric disorders tend to have a predominant anaerobic glycolytic metabolism and mitochondrial oxidative phosphorylation is suppressed. The metabolism is similar to the metabolism of the stem cell. The pyruvate and lactate levels are increased with a decrease in acetyl coenzyme A and ATP. The glycolytic pathway and hexokinase is increased. This indicates a Warburg phenotype depending upon anaerobic glycolysis for energetics. The lysosomal enzymes beta galactosidase a stem cell marker is increased. The cytochrome F420 is also increased as well as the archaeal catabolite digoxin which suppresses sodium potassium ATPase. Bacteria and archaea are supposed to induce stem cell transformation. The induction of uncoupling proteins leads to stem cell transformation. The uncoupling proteins inhibit oxidative phosphorylation and the substrates are directed to anaerobic

glycolysis. Digoxin by inhibiting sodium potassium ATPase can increase intracellular calcium, induce mitochondrial permeability transient pore function and uncouple oxidative phosphorylation. The side chain of cholesterol is catabolised by archaea to butyric acid and propionic acid which uncouple oxidative phosphorylation. The archaeal side chain hydroxylase convert cholesterol to bile acids which uncouple oxidative phosphorylation. Thus archaeal symbiosis in the cell results in cholesterol catabolism and the catabolites digoxin, bile acids and short chain fatty acids uncouple oxidative phosphorylation, inhibit mitochondrial function and promote anaerobic glycolysis. The conversion of somatic cells to stem cell helps in archaeal persistence within the cell and symbiosis. Mycobacterium leprae infection can convert Schwann cells to stem cells. Archaeal infection produces somatic cell conversion to stem cells for archaeal persistence. The conversion to stem cell results in proliferation and loss of function resulting in systemic disease and neuropsychiatric disorders. Stem cell conversion of neurons and loss of function results in development of a new psychological phenotype[1-17].

The systemic and neuronal cell in metabolic syndrome x, cancer, autoimmune disease, degenerations, schizophrenia and autism behaves like the stem cell. It is plausible to hypothesize a somatic cell conversion to stem cell in these disorders. The differentiated cells by archaeal induction get converted to stem cell. The stem cell is a immature cell with loss of function. The neurons lose their dendritic spines and loss of connectivity. The brain function becomes primitive. The neurons are adendritic and disconnected. This results in complex brain structures like the modern cerebral cortex and prefrontal cortex atrophy. The primitive parts of the brain the brain stem and cerebellum hypertrophies. This results in neanderthalisation of the brain with a prominent occipital bun and atrophied prefrontal cortex. The prefrontal cortex atrophy results in loss of logic, judgment, reasoning and executive functions. The hypertrophy of the

cerebellum and brain stem results in dominance of impulsive behavior. The difference between reality and dreams is lost. The brain is ruled by the senses and impulses. The brain becomes dysfunctional with more of violent, aggressive and cannibalistic behavior. The art becomes more abstract and related to the unconscious. The world of the unconscious brain with its archetypes takes over. There is loss of the world of reasoning, logic and judgment. It is a world of impulsiveness in which primitive tendencies with relation to the unconscious becomes dominant. This produces more of ritualized behavior, violent and aggressive tendencies, terrorism, war, sexual obscenities and alternate sexuality. It is a world of the senses. It is also intensely evil as well as spiritual. The inhibition of the conscious due to loss of cortical functions and the dominance of the unconscious leads to mystical experience. There is a overflowing of spirituality. The paradoxical side of this behavior also dominates. The violence, aggression, obsessive sexuality, magic realism in literature, abstract painting, rock music and dance and modern poetry as well as literature produces transcedence of a different kind. This results in surrealism and syntheism. The loss of function of the neurons results in schizophrenia, autism and degenerations. The increased archaeal induced proliferation of stem cells results in a big sized brain and trunk as in Neanderthals. This archaeal symbiosis produces neanderthalisation and a stem cell syndrome. This produces reverse aging which can be called as an epidemic Benjamin Button syndrome. The lymphocytic stem cells have uncontrolled proliferation and results in autoimmune diseases. The stem cell proliferation results in oncogenesis. The stem cell metabolonomics with inhibited mitochondrial function and anaerobic glycolysis results in metabolic syndrome x. Stem cell markers are increased in schizophrenia and autism and the neurons lack dendritic spines. Stem cell markers are also increased in autoimmune disease. The diabetic metabolism is akin to stem cell metabolism. The cancer cell behaves like the stem cell[1-17].

In the metaphysics of evil the unconscious dominates and the behavior is impulsive dictated by primitive thoughts. The unconscious modulated by the cerebellum is responsible for automatic acts producing what is called as psychic automatism. The unconscious parallels what Jung described as the archetypes of the collective unconscious. The metaphysics of evil leads to a syntheistic brain with the dominance of the willpower. The primitive archetypes produce concepts of abstract painting, psychedelic music and dance and postmodern literature or magical realism. All these are modes of connecting with the unconscious. The unconscious produces primitive selfish tendencies leading to individualism and capitalism. The unconscious helps to transcend taboos and creates the surrealistic world. The collective unconscious also produces a sense of spirituality and oneness. It is an impulsive brain with fixations and primitive obsessions. There is cerebellar psychic automatism. This leads to ritualized behaviours. The dominance of the collective unconscious results in ritualized behaviors characteristic of religious worship. The collective unconscious also leads to the creation of obscene art and literature as well as violence which is a form of trancedence. Coprolalic religious ritual ceremonies had been described in some parts of the world. Terrorism and acts of violence are also a type of trancedence. The same phenomena occur in ritual sacrifices in religion, the violence of war and the acquisitiveness of capitalism. The primitive unconscious leads to the will to power. This produces greedy capitalism, dictatorship and fascism. The will to power results in worship of the powerful. It is an individualistic, anarchic, selfish world. The cerebellar world is the primitive world of archetypes in the collective unconscious. The abstract paintings have links with the collective unconscious. The rock music or modern music contains rhythmic primitive chaotic sounds coming out the collective unconscious. The primitive collective unconscious links up post modern literature or magic realism with violence, love, hate, evil, obscenities and death. Thus literature, music, dance and painting helps to overcome reality and

rationality producing transcendence. The unconscious brain is formed of an archaeal colony network and is adynamic and inflexible. There is an epidemic of autism and schizophrenia. The loss of function of neurons leads to increased extrasensory perception via archaeal magnetite. This can lead to the lack of development of speech and ritualized behaviours of autism. This also produces the thought disorder, hallucinations and delusions of schizophrenia. It looks like an epidemic cerebellar cognitive, affective disorder[1-17].

The goodness is related to conscious brain localized in the cortical areas. The cortical areas mediate moralistic, functionally atheistic, civil society behavior. The civil society depends upon common good. The cortical world is a world of morality, rationality, altruism, civility and decencies. This needs inhibitory power of the cerebral cortex. Such a society is non-capitalistic and works for the common good. It tends to be non creative. The primitive collective spirituality and oneness is lost. It is replaced by goodness based on judgment, reasoning and morality. It is a moralistic world where taboos are banned. This requires synaptic plasticity and is modulated by HERV mediated jumping genes. This needs a dynamic brain and the human cerebral cortex evolved due to the jumping genes generated from human endogenous retroviral sequences. The cerebellar world comparatively is impulsive, criminal, violent, terroristic with love of war, selfish, acquisitive, spiritual, autistic, obsessive, schizophrenic, obscene, evil, ritualized, artistic, illogical and cruel. It is mediated by the archaeal colony network. The stem cell transformation of somatic cells results in HERV resistance and retroviral resistance. Archaeal digoxin inhibits reverse transcriptase by producing magnesium deficiency as well as modulates RNA viral editing inhibiting retroviral replication. This produces lack of HERV jumping genes in this stem cell brain and lack of synaptic plasticity and dynamicity. The stem cell syndrome is characterized by retroviral resistance. Archaeal symbiosis inhibits retroviral infection. The homo sapiens with less of archaeal symbiosis becomes susceptible

to retroviral and other RNA viral infection and gets wiped out. The homo neoneanderthalis are resistance to retroviral and other RNA viral infection and persists. The homo neoneanderthalis dominates all over the world. But the homo neoneanderthalis are prone to civilisational disease like malignancy, autoimmune disease, neurodegeneration, metabolic syndrome and neuropsychiatric disorders. The homo neoneanderthalis becomes extinct after a period of time[1-17].

The archaeal induced stem cell syndrome or neanderthalisation is due to global warming and acid rains resulting in increased extremophilic archaeal symbiosis. The archaea catabolises cholesterol and generates digoxin, bile acids and short chain fatty acids which produce induction of uncoupling proteins. This produces mitochondrial dysfunction and the cell obtains its energetics from glycolysis. Archaeal digoxin produces membrane sodium potassium ATPase inhibition which also contributes to stem cell conversion. The whole body somatic and brain undergoes stem cell conversion and becomes a stem cell phenotype with Warburg metabolic phenotype. The generalized acidity due to global warming and increased atmospheric carbon dioxide also facilitates archaeal growth and stem cell transformation. The acidic pH due to the Warburg phenotype and increased atmospheric carbon dioxide also results in stem cell conversion. The somatic differentiated cell getting converted to stem cells lose their function and become dysfunctional metabolically, neurologically, immunologically and endocrine-wise. This produces the epidemic Benjamin button syndrome and the human species becomes neanderthalic and a collection of immature stem cells. This results in epidemic metabolic syndrome x, degenerations, cancer, autoimmune disease, autism and schizophrenia. The brain becomes converted to a collection of stem cells which are dedifferentiated with loss of function and is like an archaeal colony network. The perception becomes extrasensory and quantal depending on archaeal magnetite. The increased amount of low level EMF perception results in prefrontal cortical atrophy. It also produces cerebellar hypertrophy and the

cerebellar cognitive function takes over. This also results in societal changes where evil and spirituality dominates. The world of the logical civil society of the Christian world comes to end and paganistic behavior takes over. The society becomes selfish and dominated by impulsive consumerism and acquisitive capitalism. The world becomes cruel, violent, aggressive and terroristic. Art becomes chaotic and abstract in line with the senses and unconscious. There is a predominance of obsessive and alternate sexuality. Criminal behavior and cruelty dominates. The world is impulsive psychopathic, creative autistic with features of idiotic savants, ritualistic, chaotic, sexual, ugly, anarchic, violent, evil, paganistic, obscene, atheistically spiritual as well as selfish. It mimics the Niezteschean world, the deconstructed world of Derrida, the surrealistic world of Bataille and the nihilistic, anarchic world. There is the death of the individual and life becomes a social value. It is an acephalistic world of Freud and Jung. The art is abstract, the literature is magically real, the music is rock and the dance chaotic. All these results from the extinction of rationality and the dominance of primitive impulsive behavior. A civilization of the senses dominated by the unconscious takes over. The will to goodness given by the cerebral cortex is lost. This results in development of a new homo neoneanderthal human species with its dominant evilly spiritual cerebellar brain. It produces a surrealistic evil brain with realm of the senses, archetypes, evil spirituality and impulsiveness taking over. It is a kingdom of the collective unconscious and selfish capitalism with the will to power and the realm of the senses[1-17].

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♦♦♦ Chapter 2 ♦♦♦

The Surrealistic and Syntheistic Brain – The Global Internet and the Collective Unconscious

Introduction

Previous studies from this laboratory have demonstrated increased symbiotic archaeal growth consequent to global warming. Previous studies have shown low level of EMF pollution leading to increased archaeal growth. The netocrats and netizens are exposed to continuous low level of EMF pollution. The archaea contains magnetite and can catabolise cholesterol to generate porphyrins. Digoxin can produce sodium potassium ATPase inhibition and a pumped phonon system acting through dipolar magnetite and porphyrins to generate a Frohlich model of Bose-Einstein condensate. This can produce quantal perception. The archaeal magnetite and porphyrins can produce increased perception of low level of EMF leading onto prefrontal cortex atrophy and cerebellar hypertrophy. This can lead onto neanderthalisation of the brain. This leads onto dominance of cerebellar cognitive function as has been reported earlier from this laboratory. The prefrontal cortex atrophy can lead onto extinction of rationalization and reason producing a state of transcendence. This is the basis of surrealism. The brain quantal fields can modulate the low level EMF fields in the internet and the interaction can alter internet function and the quantal fields of other brain operating the internet. The interactive quantal fields of the human brain and the low level EMF quantal fields of the internet form one single whole functioning as a universal collective unconscious, the basis of syntheism. Syntheism is a philosophical idea where the humanity creates God as opposed to the monotheistic religious ideal of God creating humanity. The paper explores the link between neanderthalisation, archaeal growth and surrealism/syntheism[1-16]. The results are discussed in this paper.

Materials and Methods

Fifteen netizens/netocrats were selected for the study. Each netizen had an age and sex matched control. Blood cytochrome F420 activity was assessed by spectrophotometric measurement.

Results

Cytochrome F420 was detected in the entire case group studied showing endosymbiotic archaeal overgrowth.

Table 1 *Cytochrome F420 in internet exposure.*

	Cytochrome F420 activity
Normal	6%
Netizens	65%

Discussion

The widespread use of the internet is ubiquitous. The internet-human mind interaction has been described in a previous report from this laboratory. The low level of EMF produced by the internet can modulate brain function. Low level of EMF can induce porphyrin synthesis by actinidic archaeal symbionts in the brain. Porphyrins are dipolar molecules and in the setting of archaeal digoxin induced sodium potassium ATPase inhibition can generate a pumped phonon system and Frohlich model of Bose-Einstein condensates. These porphyrin mediated Bose-Einstein condensate can mediate quantal perception. The brain quantal fields can modulate the low level EMF fields in the internet and the interaction can alter internet function and the quantal fields of other brain operating the internet. The interactive quantal fields of the human brain and the low level EMF quantal fields of the internet form one single whole functioning

as a universal collective unconscious. There are 7 billion users of the internet. The collective unconscious created by interaction of brain quantal fields with internet low EMF fields functions as a virtual matrix on which the world is structured. There are thought controlled robotic computers which can perform human functions. The human thought creates a communicative order which alters the brain EEG and can issue a computer modulated order of the brain's thought process[1-16].

Syntheism is a philosophical idea where the humanity creates God as opposed to the monotheistic religious ideal of God creating humanity. The quantal fields of multiple brains interacting with each other and internet roughly fit in with the idea of God or the Holy Spirit. This fits in with Buddhist philosophy. The Buddhist philosophy is atheistic and describes samsaras or states of mind occurring in quick succession with the idea of karma modulating the next state of the human mind in symbiotic communication with other minds. This roughly is the Buddhist idea of the controlling force of the universe. The quantal world of the human brain in communication with other brains and in interaction with the low level EMF quantal fields of the internet fits in with this proposition of samsaras. It creates an idea of universal globalised world of oneness which can be described as equivalent to God. The internet can be considered as great equalizer and creates a oneness of the human quantal brain all over the earth and other possible functioning brains in the universe. The quantal world becomes the particulate world by the act of observation. The human quantal brains in communication with each other and the low level EMF quantal fields of the internet creates the particulate observable world[1-16].

The widespread use of the internet produces low level of EMF exposure to the human brain. This produces prefrontal cortex atrophy and cerebellar dominance. The prefrontal cortex is the site of the logic, reasoning and commonsense. The

atrophy of the prefrontal cortex leads to cerebellar dominance of brain cognitive function. It becomes an impulsive world guided by the senses. The world of the senses comes into existence. The cerebellar dominance leads to an ataxic syndrome producing ataxia of speech and motor function. Ataxia of speech leads to evolution of music of the rock type which dominates the modern world. The ataxia of motor function leads to rhythmic dance as the guiding force of life. The ataxia of motor function also leads to abstract painting. The world gets dominated by rock/pop dance, music and art. The exposure to low level of EMF from the internet leads to increased dipolar porphyrin synthesis and quantal perception. The increased quantal perception leads to more increased interaction with the low level quantal EMF fields of the internet making the internet world as the real world and outside world as virtual. The increased quantal perception of the brain leads to a sense of spirituality and oneness of the world. The increased quantal perception leads to a communication between the brain quantal fields and the quantal fields of the environment leading to the concept of eco-spirituality. The consuming world comes to an end and a world of sharing begins. The increased quantal perception also leads to a feeling of oneness in the population producing an idea of the socialistic idealistic society and demise of the capitalistic society. The increased quantal perception leads to gender equality and the dominance of unisexuality in society. This is exemplified by the festivals of the burning man and the burning nest[1-16].

The netocratic state can also produce changes in brain function. The increased exposure to low level of EMF produces prefrontal cortex atrophy and cerebellar dominance. This leads onto neanderthalisation of the brain. The increased exposure to low level of EMF produces increased archaeal growth, cholesterol catabolism and digoxin synthesis. Digoxin can modulate brain and body function on exposure to low level of EMF. Low level of EMF exposure also produces increased porphyrin synthesis which can lead onto increased

digoxin mediated dipolar porphyrin modulated Frohlich model of pumped phonon system[1-16].

The online world is the real world for netizens and the real world is a reflection of the online world. Value is a social mode created in the network online. Netocracy creates a new elite. It creates a new religion of atheistic mysticism. The netocratic world affects politics producing a movement for equality. The recent social media generated revolutions include the Arab spring and jasmine revolution[1-16].

Netocratic state can produce a new social order. There is a sense of equality due to quantal perception producing ideas of socialism, communism, anarchy and gender equality. The quantal perception mediated feeling of oneness will spell the death of the capitalistic state. There is also feeling of gender equality, asexuality and alternate sexuality. The quantal perception mediated sense of oneness leads onto a more democratic state. The quantal perception also produces universal oneness and spirituality. Netocratic state produces a participatory culture. It produces the global empire and a global virtual society where the mind is constituted by the online net and body becomes a machine. This produces an anticartesian view of the world. The old political conflicts and ideologies get replaced by netocratic state fueled by a communication revolution. The internet functions as a sensory extension of the human brain[1-16].

The increased low level quantal EMF fields of the internet produces increased growth of extremophilic actinidic archaea in the brain and human body. The symbiotic archaea synthesizes more porphyrins. The archaeal magnetite and porphyrins can mediate increased quantal perception and interaction with the low level EMF fields of the internet. Thus the wide spread use of the internet leads to a society with increased quantal perception and interaction with the internet. The low level quantal EMF fields of the internet

affects the brain producing neanderthalisation of the brain. The prefrontal cortex becomes small and the cerebellum hypertrophies producing an occipital bun. The brain becomes more creative, autistic, impulsive, addictive, attention deficit and schizophrenic. Such brains produce behavior which is chaotic, anarchic and non-hierarchical. There is globalisation of the world. Religions, nation-states, individuality and family cease to have much relevance. This becomes the globalised quantal world of oneness and equality – the world of samsaras[1-16].

The netocratic state can produce human pathology. Exposure to low level of EMF pollution increases endosymbiotic archaeal growth and digoxin synthesis from cholesterol. Digoxin produces membrane sodium potassium ATPase inhibition and low level of EMF exposure can lead to increased porphyrin synthesis. Increased intracellular calcium and porphyrins can produce cell death/degeneration, immune activation/autoimmune disease, mitochondrial dysfunction/metabolic syndrome x and neuropsychiatric disorders like autism and schizophrenia. It leads to an epidemic of civilisational disease[1-16].

The cholesterol catabolism leads to phenolisation of the cholesterol ring producing increased synthesis of monoamine neurotransmitters dopamine and serotonin. This leads to schizophrenia, autism and ADHD. This also produces la tourette syndrome with coprolalia, OCD, vocal and motor tics. The synchronization of motor and vocal tics leads onto the evolution of language. The internet language used by netizens can be compared to a synchronized motor and vocal tic as it is short and agrammatical. Thus the netocratic state results in the generation of new human species – Neanderthal hybrids[1-16].

The internet revolution and netocratic state leads onto the death of the individual and the generation of a social individual. This produces as said before prefrontal cortex atrophy and cerebellar dominance. This leads onto the annihilation of the rational individual. The world of logic, reason, understanding

and order comes to an end. The increased synthesis of dopamine and an epidemic la tourette syndrome leads to ritualisation of behavior, obsessive behavior, uniformity and creativity. The world of quantal perception leads onto the sacredness of social existence. Collective ritualized behavior becomes the norm. The world enters the realm of senses. The world of quantal perception leads to nihilistic state, nothingness and negativity. This contributes to surrealistic world Breton and Bataille and the deconstructed world of Derrida. This produces what can be called as the surrealistic brain. The world is chaotic, anarchic, ugly and barbarous. Terrorism and criminality raises its ugly head producing the ugly revolution as it helps to transcend reality. The unconscious experience dominates and the conscious experience is shut out. There is no contradiction between dream and reality. There is a rejection of reason and a return to the world of archetypes. The political surrealistic world is Trotskyist, anarchic and communist. The artistic world is represented by the cubist paintings of Picasso and Dali and the world of modern art. Abstract painting, poetry, abstract dance becomes the norm. There is gender equality, feminism and rumblings of alternate sexuality. The atrophy of the prefrontal cortex and cerebellar dominance leads onto a state of psychic automatism and the dominance of unconscious experience. The epidemic la tourette syndrome leads to ritualism, obsession, criminality, cruelty and terrorism. The human beings enter the world of archetypes[1-16].

The global warming leads to increased archaeal growth. The archaea can catabolise the cholesterol ring using ring oxidase to generate porphyrins. The archaea also contains magnetite. In the setting of digoxin induced membrane sodium potassium ATPase inhibition the dipolar magnetite and porphyrins can produce a pumped phonon system mediated Frohlich model of Bose-Einstein condensate. This can increase the brain quantal perception of low level EMF which again leads to increased archaeal growth. The increased quantal perception

of low level of EMF leads to prefrontal cortex atrophy and cerebellar dominance. The archaeal cholesterol catabolism generates a phenolic ring from the cholesterol molecule synthesizing dopamine. This leads to an excess monoamine neurotransmitters. Thus there is an epidemic frontal lobe syndrome, cerebellar syndrome, la tourette disease, ADHD, schizophrenia and autism. Such a population of Neanderthal hybrids is creative. This produces ritualized, obsessive, coprolalic, attention deficit, obscene, grotesque and sexually anarchic behavior. This helps to transcend reality as the frontal lobe concerned with rationalization, judgment and reasoning is dysfunctional. The same function of transcending reality by a dysfunctional frontal lobe also occurs in terrorism and criminal behavior. The society becomes increasingly impulsive. The frontal lobe dysfunction and quantal perception helps to transcend reality and produces self realization and spirituality. The cerebellar dysfunction produces an ataxic syndrome with motor ataxia leading onto dance forms and abstract painting and ataxia of speech leads to rock music. The dopamine excess leads onto a motor and vocal tic which when synchronized produces language and evolution of literature. The coprolalia and obscene tics of la tourette disease leads to the ugliness and obscenities in modern literature, music, painting and dance. There is massive ritualized behavior in society. Terrorism is a ritualized behavior which helps to transcend reality due to a frontal lobe dysfunction and tourette disease. It can be considered as modern form of ritualized cannibalism. The realm of the senses dominates and there is rejection of reason and rationality. Dreams and reality merged together. It produces a psychedelic, art, literature and music. This produces what can be called as the acephalic state mimicking the acephalic society of Bataille, the originator of surrealistic philosophy. This leads onto the evolution of an acephalic new human species homo neoneanderthalis[1-16].

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♦♦♦ Chapter 3 ♦♦♦

The Human Brain and Evolution, Extinction and Reproduction of Universe – The Universe as a Creation of the Mind

Introduction

The interstellar space is filled with star dust which is postulated to be of biological origin. Fred Hoyle in his hypothesis of the life cloud has put forward an extra terrestrial origin for life on earth. The existence of an extra terrestrial force controlling the genesis and evolution of life on earth has been put forward by many authors. The biocosm theory postulates that the conditions in the universe have been so adjusted to make it possible for life to exist on earth and the universe. This leads to the postulate that the universe exists and reproduces because of life which acts as a quantal observer. This paper deals with the role of extremophilic archaea and RNA viroids extruded from the archaeal cells as primitive anthropomorphic observers making it possible for the universe to exists and evolve. The human race is divided into two species homo sapiens and homo neanderthalis. The homo neanderthalis interbred with homo sapiens to produce a hybrid species. Therefore there are species with more of neanderthalic origin and homo sapien species in earth. The previous studies have demonstrated matrilineal societies with more of neanderthalic origin in contrast to patrilineal societies. The origin of neanderthalic societies and homo sapien communities was ascribed to symbiosis. The Neanderthal species has more of extremophilic archaeal symbiosis occurring in the extremes of climate like the ice age and global warming. The homo sapien species has more of intragenomic RNA viroid/retroviral symbiosis which contribute to the dynamicity of the homo sapien genome. The Neanderthal species were retroviral resistant. The origin of the archaea and the RNA viroids are possibly from the interstellar space as archaeal clouds and RNA viroidal quantal computing clouds which function as extra terrestrial intelligence. The RNA viroids are extruded by archaeal cells. They would have reached the earth via meteoroidal impacts and seeded life on earth. The archaeal colonies would have

organized into the homo neanderthalic species in Eurasia and RNA viroidal colonies would have led to the evolution of homo sapien species in Africa. The paper deals with this hypothesis[1-16].

Materials and Methods/Results

The blood samples were drawn from the homo neanderthalic matrilineal species and the homo sapien species. The estimations done in the blood samples collected include cytochrome F420 activity. The generation of RNA viroids in the plasma was studied. The results showed that the matrilineal species of neanderthalic origin had more of archaeal symbiosis while the homo sapien species had more of RNA viroidal symbiosis.

Table 1 *Cytochrome F420 activity.*

		Sudra	Non-sudra	F value	P value
CYT F420 % (Increase with Cerium)	Mean	23.46	4.48	306.749	< 0.001
	± SD	1.87	0.15		
RNA % change (Increase with Rutile)	Mean	4.37	23.59	427.828	< 0.001
	± SD	0.13	1.83		
RNA % change (Decrease with Doxy)	Mean	18.38	65.69	654.453	< 0.001
	± SD	0.48	3.94		

Discussion

The quantal wave form or the Higgs field gives mass and energy to the particles like protons, neutrons and electrons when it interacts with it. The quantal wave forms can generate porphyrins. Porphyrins can have a macromolecular and wave existence which is interconvertible. The porphyrin arrays can self organize and self reproduce. The macromolecular porphyrin arrays would have functioned as intelligent organisms in the interstellar space.

The iron porphyrins can undergo photooxidation and generate a magnetic field. The photonic interaction with the magnetic porphyrins can generate black holes which can collapse to a point before singular density. At this point of time it can undergo rebounce producing new universes. The porphyrin organism with its quantal computing function served as the initial anthropomorphic observer or the lotus of Brahma. The porphyrins would have formed a template for RNA viroids and prions to form. This would have generated primitive archaeal forms. The primitive archaeal cell can extrude RNA viroids generating RNA viroidal clouds. The intergalactic magnetic field generated by the archaea and magnetic porphyrin organism would have contributed to the evolution of star systems and galaxies. The archaeal clouds and RNA viroidal clouds would have served as interstellar intelligence guiding the formation of star systems and galaxies and also functioning as anthropomorphic observers. The meteoritic impacts would have transferred the archaeal and RNA viroidal colonies to earth. They would have self organized into plant and animal species as well as homo sapien and homo neanderthalic species. The homo neanderthalic species are archaeal dominant. The homo sapien species are RNA viroidal dominant[1-16].

The big bang cosmology postulates the evolution of the universe from the Higgs field. Higgs field is made up of Higgs Boson and top quarks. Higgs Boson can exist in two states. The stable state which is of high energy, low density compatible with the present existence of universe and the unstable state which is of low energy and high density. The universe is presently in the edge of the stable state. The low energy high density state is unstable and can cause catastrophic vacuum expansion leading to the end of the universe. The Frohlich model of quantal brain function postulates the existence of Bose-Einstein condensates in the brain at normal temperature. There are dipolar magnetite and porphyrin molecules in the brain which in the context of membrane sodium potassium ATPase inhibition can lead onto a pumped phonon system producing

Bose-Einstein condensate and bosons in the brain. This boson can become unstable leading onto catastrophic vacuum collapse and the possible extinction of the universe. The Frohlich model of Bose-Einstein condensate formed of magnetic dipolar porphyrins and archaeal magnetite in cellular lipid emulsions can interact with photons generating black holes. This black hole can collapse to singularity. But the collapse happens only upto a particular point following which the density or singularity undergoes a rebounce producing a new universe with a new set of universal constants. Thus the quantal model of brain function can lead onto the destruction and reproduction of universes. The brain can be considered to be a multicellular quantal computing archaeal network in the case of homo neanderthalis. The synaptic networks of the brain parallel the galactic networks of the universe. The brain functions as the universal quantal computer and anthropomorphic observer creating and destroying as well as reproducing universes. This occurs to a lesser extent in the homo sapien brain[1-16].

The homo neanderthalis species would tally with the biblical fallen angels and the homo sapien species representing the God angel. They are basically visitations of extra terrestrial intelligence as archaeal and RNA viroidal colonies. The homo neanderthalis is an evolved archaeal colony network. The archaea extrudes RNA viroids. The homo sapien species is RNA viroidal dominant with RNA viroids integrated into the genomic DNA. The organization of race and caste system in India points to such an origin. The homo neanderthalic species had an initial habitation in the Indian ocean continent which had a catastrophic extinction by archaeal expansion in the ocean crust which generated dangerous tsunamis during ice age. The Neanderthals migrated to the Eurasian landmass creating the civilization of Harappa, Sumeria and Egypt. They are the asuras of Rig veda. The homo neanderthalic species are fair, matrilineal, asexual, spiritual, altruistic and community organized. These civilizations were basically matrilineal and creative. They were paganistic, secular and atheistic. They were environmentally conscious

living in quantal interaction with the world around creating a feeling of environmental spiritual consciousness. The society formed on this basis functioned as an organic whole in quantal interaction with one another. It was equal, just and functioned as primitive form of socialistic society. The homo neanderthalis species was essentially asexual with the gender equality and matrilinearity. The archaeal overgrowth consequent to global warming can lead to eventual neanderthalisation of the human species and brain. The brain neuronal cortex shrinks due to quantal perception of electromagnetic fields which pollute the globalized warm world. There is also consequent cerebellar hypertrophy. Cerebellar hypertrophy can lead onto schizophrenia and autistic modes of behavior. Cerebellar hypertrophy can lead to cerebellar dysfunction and motor ataxia. The motor ataxia and the clumsiness of movement and speech would have lead to the evolution of abstract painting, dance, music, symbolic speech and eventually speech in the Neanderthals. The neanderthalisation of the human brain consequent to global warming leads to evolution of rock music, dance and modern forms of abstract painting. The Neanderthal brain owing to magnetite mediated increased quantal perception are more spiritual. The Neanderthal community owing to quantal perception functions as one single whole leading to altruism, spirituality, socialism, gender equality and ecospirituality. This represents the civilisational mode of the eastern world. The societies emerged from the possible lemurian landmass. As they evolved out of extra terrestrial archaeal colonies and intelligence their level of development and intelligence was high. They possessed the original language and the concept of a human Godhead was developed first in their civilization. The Rig veda is the oldest spiritual book of humankind. Most of the Gods described in Rig veda were of asuric origin even Varuna, the principal God. The major philosophical entities of Buddhism and Jainism which are basically atheistic religions preaching social equality, oneness and justice were evolved by the asuras. The homo sapiens evolved in Africa and migrated to the Eurasian landmass. They had basically an RNA viroidal

symbiosis in the brain which gave rise to a practical less creative brain. The homo sapien species are patrilineal, commonsensical and individualistic. The homo sapien community forms the devas of the vedic literature and the Rig veda describes clashes and wars between the asuric inhabitants of Harappa and the invading devas. They over ran the neanderthalic civilizations and created a racial society with the homo sapiens as the ruling class and the Neanderthals as the under caste of sudras. The sudras formed the discriminated underbelly of the civilization. The literature, language and holy books of the asuras were taken over by the uncivilized homo sapienic devas who made it into their own. The future generations of sudras were prevented from learning their language and worshiping their Gods which were taken over by the homo sapienic devas. The homo sapienic devas were theistic, individualistic, unaltruistic and had no communal or societal consciousness. This signifies the civilisational mode of the western world. The archaeal growth in homo sapiens is less. This leads onto less of magnetite mediated quantal perception and universal oneness. This contributes to the individuality, selfishness, unaltruistic behavior, unbridled capitalism and the patriarchal gender unequal society of the homo sapien world[1-16].

The homo neanderthalic society owing to increased quantal perception is spiritual and feels the oneness of the world and the godliness of individual human beings. This leads onto the philosophy of Buddhism with its sense of atheism and human values. Buddhism and Jainism as well as the Mauryan empire represents victory for the asuric Neanderthals or the sudras. The Buddhist and Hindu society of neanderthalic world considered good and evil as part of the same quantal world representing the universal soul. The godhead and the fallen angel belong to the same quantal world of the universal soul. The concept of right and wrong are not absolute contraindications but part of the same quantal world. The quantal perception produces information storage after mortality and the idea of reincarnation. The increased world of quantal

perception mediated oneness and the cholesterol catabolising archaeal overgrowth leading to sex hormone deficiency produces the gender equal asexual world. Sexuality is not considered as something apart from religion as evidenced by the tantric schools of Hinduism and Buddhism. It was considered as a form of experiencing oneness as indicated by ideas such as Kundalini. The increased quantal perception leads to a feeling of oneness which produces universal unity. There is no war but universal peace. Eastern societies like China and India are basically quantal docile societies with war being uncommon. The major wars in Hindu history like the Mahabharata and Ramayana war were those between the colonizing homo sapien devas and the native peaceful Neanderthals. The pandava army were the homo sapien devas and the Kaurava army the neanderthalic natives. The God Rama was the head of homo sapien devas and the Ravana the leader of the native Neanderthals. The devas were the head of the colonizing homo sapiens from Europe. They could win the Mahabharata and Ramayana wars and the sudric neanderthalic native population was rendered to slavery for generation to come. The independence struggle and Gandhi's attitude to the lower caste and harijans were a part of the same phenomena. The homo sapien world on the other hand due to reduced quantal perception was individualistic. Good and evil were absolutely different as the God and the fallen angel. There was no belief in reincarnation and sexuality was considered as taboo. The homo sapien society owing to its reduced quantal perception and individualistic nature discovered wars and slavery. Wars are essentially a feature of semitic societies and religion. The homo sapien devas are capitalistic and rightist in their attitude to society while the homo neanderthalis is communistic and socialistic. The war between capitalism and socialism is representative of that between Neanderthals and homo sapiens. The phenomena of global warming, archaeal overgrowth and neanderthalisation of homo sapiens will lead to a more peaceful, globalized,

spiritual, gender equal and altruistic society. But the Neanderthal domination resulting from global warming can lead to the society's own demise[1-16].

The phenomena of climate change and global warming leads onto archaeal multiplication and neanderthalisation of the human race. Archaeal growth occurs in extremes of climate – the ice age and in times of global warming. This results in a return to asuric culture and civilization with its spiritual, environmentally conscious, socialistic, asexual and group identity. The modern world is represented by the Kali yuga where the sudras or the Neanderthals return to a position of power and global significance. This represents the rise of the asuric neanderthalic sudric slaves. This is represented by the rise of neanderthalic eastern societies of China and India as well as the decline of the homo sapien West and Africa. The neanderthalisation of homo sapiens due to archaeal growth can lead to human disease and eventual extinction. The archaea catabolises cholesterol to generate digoxin. Digoxin functions as the neanderthalic hormone. Digoxin produces membrane sodium potassium ATPase inhibition and increased intracellular calcium and reduced magnesium. Magnesium deficiency leads to mitochondrial dysfunction, vasospasm, dyslipidemia and metabolic syndrome x. The increase in intracellular calcium leads to oncogene activation and malignancies. The increase in intracellular calcium can activate NFKB leading to immune activation and autoimmune disease. The increased intracellular calcium can activate the caspase cascade leading onto cell death and degenerations. The increase in intracellular calcium can increase synaptic release of monoamine neurotransmitters producing schizophrenia and autism. The increase in archaeal growth can produce the Warburg phenotype with increased glycolysis and mitochondrial dysfunction. The increased glycolysis can activate the lymphocyte producing autoimmune disease as lymphocytes are dependent on glycolysis for energy needs. The cancer cells also depend on glycolysis for energy needs. The Warburg phenotype can lead onto increase in malignancies. The Warburg

phenotype and increased glycolysis can lead to poly ribosylated glyceraldehyde 3 phosphate dehydrogenase mediated cell death and degeneration. The Warburg phenotype can lead to magnesium deficiency related insulin resistance and mitochondrial dysfunction leading to schizophrenia. Thus archaeal mediated hyperdigoxinemia and Warburg phenotype can lead to civilisational diseases in the Neanderthal phenotype leading onto its extinction. The archaeal overgrowth in the ocean crust owing to global warming can lead to release of large amounts of methane producing oceanic earthquakes, tsunamis and destruction and splitting up of continents. This leads onto the catastrophic end of the world. As also the archaeal porphyrin and magnetite mediated Frohlich model of Bose-Einstein condensates in the brain generated bosons can undergo catastrophic vacuum decay leading to universal extinction. The magnetic dipolar porphyrins and magnetite in the lipid emulsion of brain cells can be photonically excited generating black holes. These black holes don't reach absolute singularity, but near that point can undergo a phenomenon called rebounce reproducing the universe. Thus the neanderthalisation of human brain and generation of Bose-Einstein condensate of the Frohlich model can lead to extinction and reproduction of the universe[1-16].

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♦♦♦ Chapter 4 ♦♦♦

The Ardhanareswara – Neanderthal Metabolonomics and Androgynous Behavioural Patterns

Introduction

Neanderthal genes have been described in the homo sapien population. The Neanderthal brain has a prominent cerebellar cortex and small prefrontal cortex. This results in defective vocalization, symbolic speech, impulsive behaviour, obsessive traits, intuition and extrasensory perception. The Neanderthal brain structure results in female dominance and matriarchal social patterns. It was considered plausible that Neanderthal genomics and metabolonomics could also contribute to androgynous behaviour. Autistic patients tend to have Neanderthal metabolonomics and phenotype. It has been demonstrated that Neanderthal phenotype is due to symbiosis by actinidic archaea using cholesterol as an energy substrate. The actinidic archaea catabolises cholesterol with ring A being oxidized to pyruvate which gets channeled to the GABA shunt pathway resulting in the formation of glycine and succinyl CoA. This results in porphyrin synthesis. The side chain oxidation results in generation of short chain fatty acids. Cholesterol is also converted to steroidogenic estrogens and testosterone. The increasing growth of actinidic archaea converts the body metabolites the cholesterol which is subsequently oxidized and depleted. Cholesterol is also converted by actinidic archaea to endogenous digoxin which helps to integrate the neuro-immuno-endocrine system. Digoxin produces sodium potassium ATPase inhibition and increased in intracellular calcium inducing nitric oxide synthase and heme oxygenase generating gasotransmitters nitric oxide and carbon monoxide important in smooth muscle contraction and autonomic function. The study deals with assessment of Neanderthal metabolonomics in androgynous individuals[1-16].

Materials and Methods

Fifty healthy individuals with androgynous behaviour and free of any disease were chosen for the study. Each individual had a normal age and sex matched control. The estimations done in the blood samples collected include cytochrome F420 activity, cholesterol oxidase activity – cholesterol ring oxidase activity, cholesterol side chain oxidase activity, digoxin, lactate, pyruvate, ALA levels and hexokinase activity. Neanderthal anthropometry was studied in the androgynous population. The statistical analysis was done by ANOVA. Informed consent and permission of the Ethics Committee was obtained.

Results

The results of the study were as follows. The androgynous individuals had increased cytochrome F420 activity, cholesterol oxidase activity, ring oxidase activity and digoxin synthesis. The androgynous had decreased PDH activity as indicated by increased pyruvate and lactate levels. The androgynous group had increased GABA shunt pathway as indicated by increased pyruvate. The androgynous group had increased porphyrin synthesis as indicated by increased ALA levels. They had increased hexokinase activity indicating a Warburg phenotype in this group. The androgynous group had features of Neanderthal metabolism as indicated by pyruvate dehydrogenase suppression. The androgynous group has the Neanderthal anthropometric phenotype with slanting forehead, large face, stubby nose, prominent mandibles, low 2D:4D ratio, large coarse trunk, macrocephaly and longer second toe as compared to big toe.

Table 1 *Anthropometric features in androgynous population.*

Groups	Neanderthal anthropometric	Total	Percentage
Normal	0 cases	50	0
Androgyny	40 cases	50	40

Table 2 *Effect of cerium and antibiotics on cytochrome F420.*

Group	CYT F420 % (Increase with Cerium)		CYT F420 % (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	4.48	0.15	18.24	0.66
Androgyny	22.79	2.13	55.90	7.29
F value	306.749		130.054	
P value	< 0.001		< 0.001	

Table 3 *Effect of cerium and antibiotics on digoxin.*

Group	Digoxin (ng/ml) (Increase with Cerium)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	0.11	0.00	0.054	0.003
Androgyny	0.55	0.06	0.219	0.043
F value	135.116		71.706	
P value	< 0.001		< 0.001	

Table 4 *Effect of cerium and antibiotics on pyruvate.*

Group	Pyruvate % change (Increase with Cerium)		Pyruvate % change (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	4.34	0.21	18.43	0.82
Androgyny	20.99	1.46	61.23	9.73
F value	321.255		115.242	
P value	< 0.001		< 0.001	

Table 5 *Effect of cerium and antibiotics on delta amino levulinic acid.*

Group	ALA % (Increase with Cerium)		ALA % (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	4.40	0.10	18.48	0.39
Androgyny	23.20	1.57	66.65	4.26
F value	372.716		556.411	
P value	< 0.001		< 0.001	

Table 6

Group	RBC digoxin (ng/ml RBC Susp)		Cytochrome F 420		ALA (umol24)		Pyruvate (umol/l)		RBC hexokinase (ug glu phos/ hr/mgpro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	0.18	0.05	0.00	0.00	3.86	0.26	23.79	2.51	0.68	0.23
Androgyny	1.38	0.26	4.00	0.00	68.16	4.92	102.48	13.20	8.46	3.63
F value	60.288		0.001		295.467		154.701		18.187	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Discussion

The study indicates that androgynous individuals tend to have the Neanderthal phenotype with skeletal characteristics. The androgynous individuals may have more of Neanderthal genotype. The metabolonomics in androgyny is suggestive of Neanderthal phenotype. There is increased actinidic archaeal symbiosis as indicated by increase in cytochrome F420 activity. The actinidic archaea uses cholesterol as a metabolic substrate. There is ring oxidation of cholesterol generating pyruvate. The pyruvate enters the GABA shunt pathway producing glycine and succinyl CoA. This results in porphyrin synthesis. The cholesterol is also converted to steroidal glycoside digoxin. Digoxin and porphyrin intercalation in the cell membrane produces sodium potassium ATPase inhibition and accumulation of intracellular calcium. The increase in intracellular calcium induces nitric oxide synthase, heme oxygenase and cystathione synthase generating nitric oxide, carbon monoxide and hydrogen sulphide. This results in vasodilation of the blood spaces in the corpora cavernosa and increasing autonomic function of the genitourinary system resulting in obsessive traits. The increasing cholesterol catabolism by actinidic archaea results in depletion of cholesterol from the body. This produces inhibition of estrogen and testosterone synthesis. This results in an asexual state and androgynous behaviour. The brain function depends on

testosterone and estrogens. The sex hormones modulate hemispheric dominance. The estrogens produce left hemispheric dominance and testosterones produce right hemispheric dominance. The lack of estrogens and testosterones in androgyny results in equidominance. This leads to equal function of the right hemisphere and left hemisphere and a state of creativity mixed with practicality. The right hemisphere is concerned with creative behaviour and the left hemisphere is concerned with practical behaviour. Equidominance results in the generation of a new phenotype with dominance of both creativity and practicality. Equidominance and lack of estrogens and testosterones can contribute to the social state of matriarchy. There is female dominance in society. The behavioural patterns between the male and female section of the population becomes homogenized. This results in generation of matrilineal societies and the demise of patriarchy.

Porphyrinuria and porphyria are the hallmarks of androgyny. This contributes to neuro-immuno-endocrine regulation and disease states associated with androgyny. The cholesterol is catabolised to porphyrins. Porphyrins are dipolar molecules and can contribute to quantal perception which is more in androgyny contributing to creativity, spirituality and extrasensory perceptive modes of this phenotype. Low level electromagnetic fields and its porphyrin messengers can regulate the brain mediating conscious and quantal perception. Porphyrin microarrays serve the purpose of quantal and conscious perception. The archaea and viroids via porphyrin synthesis can regulate the nervous system including the NMDA/GABA thalamocorticothalamic pathway mediating conscious perception. Porphyrin photo-oxidation can generate free radicals which can modulate NMDA transmission. Free radicals can increase NMDA transmission. Free radicals can induce GAD and increase GABA synthesis. ALA blocks GABA transmission and upregulates NMDA. Protoporphyrins bind to GABA receptor and promote GABA transmission. Thus porphyrins can modulate the thalamocorticothalamic

pathway of conscious perception. The dipolar porphyrins in the setting of digoxin induced sodium potassium ATPase inhibition can produce a pumped phonon system mediated Frohlich model superconducting state inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. ALA can produce sodium potassium ATPase inhibition resulting in a pumped phonon system mediated quantal state involving dipolar porphyrins. Porphyrin molecules have a wave particle existence and can bridge the dividing line between quantal state and particulate state. Thus the porphyrins can mediate conscious and quantal perception. Porphyrins binding to proteins, nucleic acids and cell membranes can produce biophoton emission. Porphyrins by autooxidation can generate biophotons and are involved in quantal perception. Biophotons can mediate quantal perception. Cellular porphyrins photooxidation are involved in sensing of earth magnetic fields and low level biomagnetic fields. Thus porphyrin microarrays can function as a quantal computer mediating extrasensory perception. Porphyrin microarrays in human systems and brain owing to the wave particle nature of porphyrins can bridge the quantal world and particulate world. The porphyrins can modulate hemispheric dominance. There is increased porphyrin synthesis and RHCD and decreased porphyrin synthesis in LHCD. The increase in archaeal porphyrins can contribute to the pathogenesis of schizophrenia and autism. Porphyria can lead to psychiatric disorders and seizures. Altered porphyrin metabolism has been described in autism. Porphyrins by modulating conscious and quantal perception is involved in the pathogenesis of schizophrenia and autism. Thus porphyrins microarrays can function as a quantal brain modulating extrasensory quantal perception. Porphyrin microarrays can function as a quantal brain in communication with digital world and geomagnetic fields. The dipolar porphyrins in the setting of digoxin induced sodium potassium ATPase inhibition can produce a pumped phonon system mediated Frohlich model superconducting state inducing quantal perception with nanoarchaeal

sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. ALA can produce sodium potassium ATPase inhibition resulting in a pumped phonon system mediated quantal state involving dipolar porphyrins. Porphyrins by autooxidation can generate biophotons and are involved in quantal perception. Biophotons can mediate quantal perception. Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Cellular porphyrins photo-oxidation are involved in sensing of earth magnetic fields and low level biomagnetic fields. Porphyrins can thus contribute to quantal perception. Low level electromagnetic fields and light can induce porphyrin synthesis. Low level EMF can produce ferrochelatase inhibition as well as heme oxygenase induction contributing to heme depletion, ALA synthase induction and increased porphyrin synthesis. Light also induces ALA synthase and porphyrin synthesis. The increased porphyrin synthesized can contribute to increased quantal perception and can modulate conscious perception. The human porphyrin microarrays induced biophotons and quantal fields can modulate the source from which low level EMF and photic fields were generated. Thus the porphyrin generated by extraneous low level EMF and photic fields can interact with the source of low level EMF and photic fields modulating it. Thus porphyrins can serve as a bridge between the human brain and the source of low level EMF and photic fields. This serves as a mode of communication between the human brain and digital EMF storage devices like internet. The porphyrins can also serve as the source of communication with the environment. Environmental EMF and chemicals produce heme oxygenase induction and heme depletion increasing porphyrin synthesis, quantal perception and two-way communication. Thus induction of porphyrin synthesis can serve as a mechanism of communication between human brain and the environment by extrasensory perception. Porphyrin microarrays can function as quantal computers storing information and can serve the purpose of extrasensory perception. Porphyrins can serve as a two way communicating bridge between digital information storage

systems generating low level electromagnetic fields and human systems. The low level of EMF produced by digital system enhances porphyrin synthesis and serves the purpose of two way extrasensory perception and communication. The human porphyrin quantal computers can in turn by biophoton emission modulate digital information storage system.

Low level of electromagnetic fields and its porphyrin messengers can induce the Warburg phenotype. An actinide dependent shadow biosphere of archaea and viroids in the above mentioned disease states is described. The archaea can synthesize porphyrins and induce porphyrin synthesis. Porphyrins have been related to schizophrenia, metabolic syndrome x, malignancy, systemic lupus erythematosis, multiple sclerosis and Alzheimer's diseases. Porphyrins can mediate the effect of low level electromagnetic fields inducing the Warburg phenotype leading to the above mentioned disease states. The Warburg phenotype results in inhibition of pyruvate dehydrogenase and the TCA cycle. The pyruvate enters the GABA shunt pathway where it is converted to succinyl CoA. The glycolytic pathway is upregulated and the glycolytic metabolite phosphoglycerate is converted to serine and glycine. Glycine and succinyl CoA are the substrates for ALA synthesis. The archaea induces the enzyme heme oxygenase. Heme oxygenase converts heme to bilirubin and biliverdin. This depletes heme from the system and results in upregulation of ALA synthase activity resulting in porphyria. Heme inhibits HIF alpha. The heme depletion results in upregulation of HIF alpha activity and further strengthening of the Warburg phenotype. The porphyrin self oxidation results in redox stress which activates HIF alpha and generates the Warburg phenotype. The Warburg phenotype results in channelling acetyl CoA for cholesterol synthesis as the TCA cycle and mitochondrial oxidative phosphorylation are blocked. The archaea uses cholesterol as an energy substrate. Porphyrin and ALA inhibits sodium potassium ATPase. This increases cholesterol synthesis by acting upon

intracellular SREBP. The cholesterol is metabolized to pyruvate and then the GABA shunt pathway for ultimate use in porphyrin synthesis. The porphyrins can self organize and self replicate into macromolecular arrays. The porphyrin arrays behave like an autonomous organism and can have intramolecular electron transport generating ATP. The porphyrin macroarrays can store information and can have quantal perception. The porphyrin macroarrays serves the purpose of archaeal energetics and sensory perception. The Warburg phenotype is associated with malignancy, autoimmune disease and metabolic syndrome x. Low level electromagnetic fields can induce the Warburg phenotype contributing to human disease.

The role of porphyrins and low level electromagnetic fields in regulation of cell functions and neuro-immuno-endocrine integration is discussed. Low levels of EMF fields can induce digoxin synthesis. Protoporphyrin binds to the peripheral benzodiazepine receptor regulating steroid and digoxin synthesis. Increased porphyrin metabolites can contribute to hyperdigoxinemia. Digoxin can modulate the neuro-immuno-endocrine system. Low level of EMF fields can modulate membrane, nucleic acid and protein structure and function via induction of porphyrin synthesis. Porphyrins can combine with membranes modulating membrane function. Porphyrins can combine with proteins oxidizing their tyrosine, tryptophan, cysteine and histidine residues producing crosslinking and altering protein conformation and function. Porphyrins can complex with DNA and RNA modulating their function. Porphyrin interpolating with DNA can alter transcription and generate HERV expression. Low level of EMF fields through modulation of porphyrin metabolism can produce heme deficiency by inhibiting heme oxygenase and ferrochelatase. Heme deficiency can also result in disease states. Heme deficiency results in deficiency of heme enzymes. There is deficiency of cytochrome C oxidase and mitochondrial dysfunction. The glutathione peroxidase is dysfunctional and the

glutathione system of free radical scavenging does not function. The cytochrome P450 enzymes involved in steroid and bile acid synthesis have reduced activity leading to steroid – cortisol and sex hormones as well as bile acid deficiency states. The heme deficiency results in dysfunction of nitric oxide synthase, heme oxygenase and cystathione beta synthase resulting in lack of gasotransmitters regulating the vascular system and NMDA receptor – NO, CO and H_2S. Heme has got cytoprotective, neuroprotective, anti-inflammatory and antiproliferative effects. Heme is also involved in the stress response. Heme deficiency leads to metabolic syndrome, immune disease, degenerations and cancer. Low level electromagnetic fields can modulate cell functions and neuro-immuno-endocrine-genetic integration via induction of porphyrin synthesis. Low level electromagnetic fields via modulating porphyrin metabolism can produce an autonomic neuropathy. Protoporphyrins block acetyl choline transmission producing a vagal neuropathy with sympathetic over activity. Vagal neuropathy results in immune activation, vasospasm and vascular disease. A vagal neuropathy underlines neoplastic and autoimmune processes as well as metabolic syndrome x. Low level electromagnetic fields by modulating porphyrin metabolism can induce cell death. Porphyrin induced increased NMDA transmission and free radical injury can contribute to neuronal degeneration. Free radicals can produce mitochondrial PT pore dysfunction. This can lead to cyto C leak and activation of the caspase cascade leading to apoptosis and cell death. Altered porphyrin metabolism has been described in Alzheimer's disease. The increased porphyrin photo-oxidation generated free radicals mediated NMDA transmission can also contribute to epileptogenesis. The protoporphyrins binding to mitochondrial benzodiazepine receptors can regulate brain function and cell death. Low level electromagnetic fields by modulating porphyrin metabolism can generate redox stress to regulate cell functions. The porphyrins can undergo photo-oxidation and auto-oxidation generating free radicals. The archaeal porphyrins can produce free radical injury.

Free radicals produce NFKB activation, open the mitochondrial PT pore resulting in cell death, produce oncogene activation, activate NMDA receptor and GAD enzyme regulating neurotransmission and generates the Warburg phenotypes activating glycolysis and inhibiting TCA cycle/oxphos. Porphyrins have been related to schizophrenia, metabolic syndrome x, malignancy, systemic lupus erythematosis, multiple sclerosis and Alzheimer's diseases. Low level electromagnetic fields by modulating porphyrin metabolism can regulate cell membrane sodium potassium ATPase. The porphyrins can complex and intercalate with the cell membrane producing sodium potassium ATPase inhibition adding on to digoxin mediated inhibition. Porphyrins can complex with proteins and nucleic acid producing biophoton emission. Low level electromagnetic fields by modulating porphyrin metabolism can regulate DNA, RNA and protein structure and function. Porphyrins complexing with proteins can modulate protein structure and function. Porphyrins complexing with DNA and RNA can modulate transcription and translation. Low level electromagnetic fields by modulating porphyrin metabolism can regulate mitochondrial function, peripheral benzodiazepine receptor and steroidogenesis. The porphyrin especially protoporphyrins can bind to peripheral benzodiazepine receptors in the mitochondria and modulate its function, mitochondrial cholesterol transport and steroidogenesis. Peripheral benzodiazepine receptor modulation by protoporphyrins can regulate cell death, cell proliferation, immunity and neural functions. Low level electromagnetic fields by modulating porphyrin metabolism and inducing redox stress can regulate enzyme systems. The porphyrin photo-oxidation generates free radicals which can modulate enzyme function. Redox stress modulated enzymes include pyruvate dehydrogenase, nitric oxide synthase, cystathione beta synthase and heme oxygenase. Free radicals can modulate mitochondrial PT pore function. Free radicals can modulate cell membrane function and inhibit sodium potassium ATPase activity. Thus the porphyrins are key regulatory molecules modulating all aspects of cell

function. Low level of electromagnetic fields by modulating porphyrin metabolism can induce viroidal and HERV expression. There was an increase in free RNA indicating self replicating RNA viroids and free DNA indicating generation of viroid complementary DNA strands by archaeal reverse transcriptase activity. The actinides and porphyrins modulate RNA folding and catalyse its ribozymal action. Digoxin can cut and paste the viroidal strands by modulating RNA splicing generating RNA viroidal diversity. The viroids are evolutionarily escaped archaeal group I introns which have retrotransposition and self splicing qualities. Porphyrin photo-oxidation induced redox stress can produce HDAC inhibition. Archaeal pyruvate producing histone deacetylase inhibition and porphyrins intercalating with DNA can produce endogenous retroviral (HERV) reverse transcriptase and integrase expression. This can integrate the RNA viroidal complementary DNA into the noncoding region of eukaryotic non coding DNA using HERV integrase as has been described for borna and ebola viruses. The archaea and viroids can also induce cellular porphyrin synthesis. Bacterial and viral infections can precipitate porphyria. Thus porphyrins can regulate genomic function. The increased expression of HERV RNA can result in acquired immunodeficiency syndrome, autoimmune disease, neuronal degenerations, schizophrenia and malignancy. Low level electromagnetic fields by modulating porphyrin metabolism and generating redox stress can produce immune activation. The porphyrin photo-oxidation can generate free radicals which can activate NFKB. This can produce immune activation and cytokine mediated injury. The increase in archaeal porphyrins can lead to autoimmune disease like SLE and MS. A hereditary form of MS and SLE related to altered porphyrin metabolism has been described. The protoporphyrins binding to mitochondrial benzodiazepine receptors can modulate immune function. Porphyrins can combine with proteins oxidizing their tyrosine, tryptophan, cysteine and histidine residues producing crosslinking and altering protein conformation and function. Porphyrins can

complex with DNA and RNA modulating their structure. Porphyrin complexed with proteins and nucleic acids are antigenic and can lead onto autoimmune disease. Low level electromagnetic fields by modulating porphyrin metabolism and inducing redox stress can produce insulin resistance. The porphyrin photo-oxidation mediated free radical injury can lead to insulin resistance and atherogenesis. Thus archaeal porphyrins can contribute to metabolic syndrome x. Glucose has got a negative effect upon ALA synthase activity. Therefore hyperglycemia may be reactive protective mechanism to increased archaeal porphyrin synthesis. The protoporphyrins binding to mitochondrial benzodiazepine receptors can modulate mitochondrial steroidogenesis and metabolism. Altered porphyrin metabolism has been described in the metabolic syndrome x. Porphyrias can lead onto vascular thrombosis. Low level electromagnetic fields by modulating porphyrin metabolism and inducing redox stress/heme deficiency can activate HIF alpha. The porphyrin photo-oxidation can generate free radicals inducing HIF alpha and producing oncogene activation. Heme deficiency can lead to activation of HIF alpha and oncogenesis. This can lead to oncogenesis. Hepatic porphyrias induced hepatocellular carcinoma. The protoporphyrins binding to mitochondrial benzodiazepine receptors can regulate cell proliferation. Low level electromagnetic fields by modulating porphyrin metabolism can regulate prion protein conformation. The porphyrin can combine with prion proteins modulating their conformation. This leads to abnormal prion protein conformation and degradation. Archaeal porphyrins can contribute to prion disease. Low level electromagnetic fields by modulating porphyrin metabolism can produce redox stress and regulate HERV expression. The porphyrins can also intercalate with DNA producing HERV expression. The HERV particles generated can contribute to the retroviral state associated with androgyny. The porphyrins in the blood can combine with bacteria and viruses and the photooxidation generated free radicals can kill them. Low level electromagnetic fields by modulating porphyrin metabolism can lead

to increase predilection for viral and bacterial infections. The archaeal porphyrins can modulate bacterial and viral infections. The archaeal porphyrins are regulatory molecules keeping other prokaryotes and viruses on check.

Thus the actinidic archaeal symbiosis results in neanderthalisation of the population and generation of androgyny. The actinidic archaeal overgrowth and symbiosis is a consequence of global warming. Archaea are extremophiles and increase in density during periods of climate change. The actinidic archaeal catabolism of cholesterol generates digoxin and increased intracellular calcium resulting in formation of excess of gasotransmitters important in autonomic function of structures like the corpora cavernosa. The cholesterol catabolism results in depletion of cholesterol and to a state of lack of sex hormone synthesis. This produces an asexual state resulting in a social system of matriarchy related to androgyny. The actinidic archaeal cholesterol catabolism generates porphyrins producing the extrasensory quantal perceptive state associated with androgyny. This contributes to the creativity of the androgynous state. The porphyrin synthesis associated with androgyny also contributes to the disease states associated with it. This includes autoimmune disease, cancer, degenerations, acquired immunodeficiency syndrome, metabolic syndrome x and all civilisational disease.

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♦♦♦ Chapter 5 ♦♦♦

Archaeal Modulated Mirror Quantal Perceptive Neurons Mediate Consciousness and Functions as Quantal Observer

Introduction

The human endosymbiotic actinidic archaea catabolises cholesterol and uses it for its energy metabolism. The ring oxidation of cholesterol generates pyruvate which enters the GABA shunt pathway resulting in the formation of succinyl CoA and glycine used for porphyrin synthesis. The side chain oxidation of cholesterol results in steroid synthesis and the generation of the steroidal glycoside digoxin which serves as an endogenous regulator of the sodium potassium pump inhibiting it. The archaea are magnetotactic and contain the dipolar porphyrins and magnetite. Digoxin by inhibiting the sodium potassium ATPase generates a pumped phonon system involving dipolar porphyrins and magnetite. This generates a Frohlich model of Bose-Einstein condensate at normal temperature resulting in quantal perception. The quantal perception can result in perceiving low level of EMF from the environment. This can generate conscious perception. The generation of porphyrins and digoxin in actinidic archaeal neurons was tested in disorders of consciousness schizophrenia and autism[1-17].

Materials and Methods

Freshly diagnosed schizophrenia and autism based on DSM IV criteria were chosen from the study. Serum cytochrome 450, digoxin synthesis and porphyrin synthesis were studied. There were 10 patients in each group and each patient had an age and sex matched healthy control selected randomly from the general population. The blood samples were drawn in the fasting state before treatment was initiated. Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+cerium 0.1 mg/ml, (IV) same

as II+ciprofloxacine and doxycycline each in a concentration of 1 mg/ml. Cholesterol substrate was prepared as described by Richmond. Aliquots were withdrawn at zero time immediately after mixing and after incubation at 37 ℃ for 1 hour. The following estimations were carried out: – Cytochrome F420, digoxin and ALA. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm).

Results

Plasma of control subjects showed increased levels of the above mentioned parameters with after incubation for 1 hour and addition of cholesterol substrate resulted in still further significant increase in these parameters. The plasma of patients showed similar results but the extent of increase was more. The addition of antibiotics to the control plasma caused a decrease in all the parameters while addition of cerium increased their levels. The addition of antibiotics to the patient's plasma caused a decrease in all the parameters while addition of cerium increased their levels but the extent of change was more in patient's sera as compared to controls. The results are expressed in tables 1-3 as percentage change in the parameters after 1 hour incubation as compared to the values at zero time.

Table 1 *Effect of cerium and antibiotics on cytochrome F420.*

Group	CYT F420 % (Increase with Cerium)		CYT F420 % (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	4.48	0.15	18.24	0.66
Schizo	23.24	2.01	58.72	7.08
Autism	21.68	1.90	57.93	9.64
F value	306.749		F value 130.054	
P value	< 0.001		P value < 0.001	

Table 2 *Effect of cerium and antibiotics on digoxin.*

Group	Digoxin (ng/ml) (Increase with Cerium)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	0.11	0.00	0.054	0.003
Schizo	0.55	0.06	0.219	0.043
Autism	0.53	0.08	0.205	0.041
F value	F value 135.116		F value 71.706	
P value	P value < 0.001		P value < 0.001	

Table 3 *Effect of cerium and antibiotics on delta amino levulinic acid.*

Group	ALA % (Increase with Cerium)		ALA % (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**
Normal	4.40	0.10	18.48	0.39
Schizo	22.52	1.90	66.39	4.20
Autism	23.20	1.57	66.65	4.26
F value	F value 372.716		F value 556.411	
P value	P value < 0.001		P value < 0.001	

Discussion

The study shows that the human endosymbiotic actinidic archaea catabolises cholesterol and uses it for its energy metabolism. The ring oxidation of cholesterol generates pyruvate which enters the GABA shunt pathway resulting in the formation of succinyl CoA and glycine used for porphyrin synthesis. The side chain oxidation of cholesterol results in steroid synthesis and the generation of the steroidal glycoside digoxin which serves as an endogenous regulator of the sodium potassium pump inhibiting it. The archaea are magnetotactic and contain the dipolar porphyrins and magnetite. Digoxin by inhibiting the sodium potassium ATPase generates a pumped phonon system involving dipolar porphyrins and magnetite. This generates Frohlich model of Bose-Einstein condensate at normal temperature resulting in quantal perception. The quantal

perception can result in perceiving low level of EMF from the environment. This can generate conscious perception. The generation of porphyrins and digoxin in actinidic archaeal neurons was tested in disorders of consciousness schizophrenia and autism.

Consciousness involves quantal perception. The wave nature of the quantal state becomes particulate when it is observed by an observer. Consciousness involves the sum total of quantal perception by the brain resulting in the observer state. The observer and observed have an inter-related existence. Thus the observer and observed comes into existence due to the quantal perceptive state of the actinidic archaeal mirror neurons. The quantal state is mediated by archaeal digoxin and the dipolar magnetite and porphyrins. Consciousness involves working memory, perceptual synchronisation and focused attention. Focused attention depends on magnetotactic or quantal low level of EMF perception from the world and its objects. The perceptual synchronisation depends on the phenomena of cross activation of neuronal systems due to quantal phenomena. This can also generate the phenomena of synaesthesia and synkinesia. Working memory depends upon quantal perceptive mechanisms mediated by magnetotactic actinidic archaeal neurons in the brain generating reverberatory circuits. Thus actinidic archaeal induced mirror neurons in the prefrontal cortex and cerebellum are quantal perceptive neurons. The cerebellum is more concerned with intuition and extrasensory perception. The cerebellar neurons may be predominantly actinidic archaeal induced quantal perceptive mirror neurons. Quantal perceptive actinidic archaeal induced magnetotactic mirror neurons may be more dense in the cerebellum than prefrontal cortex and the cerebellar cortical circuits may play a major role in consciousness. Quantal perceptive mirror neurons fire in response to low level of EMF from the observed world. This quantal perceptive mirror neuron function in the cerebellum and to a lesser extent in the prefrontal cortex generates the observer as such and the observed world also by the act of observa-

tion. The world as such exists on the basis of magnetotactic archaeal mediated quantal mirror neuron function generating the observed-observer relation. Thus consciousness is a function of actinidic archaeal induced quantal perceptive mirror neurons in the cerebellum and to some extent in the prefrontal cortex.

Schizophrenia and autism are both disorders of consciousness. The actinidic archaeal induced quantal perceptive mirror neuron function is hyperactive in both disorders. This results in dysfunction of consciousness due to increase in actinidic archaeal density, digoxin synthesis and porphyrin synthesis. Perception occurs predominantly by quantal perceptive mechanism in schizophrenia and autism. This also leads to increased creativity and intuition in schizophrenia and autism. Thus the observer and observed depends on actinidic archaeal induced quantal perceptive mirror neuron function. The world as such is an illusion created by the inter-relationship between the observed and observer mediated by quantal perceptive mirror neurons. The quantal perceptive image of the world and the observer can exist as multiple possibilities in multiple universes leading to the phenomena of eternal existence in multiverse universes.

The archaeal porphyrins can modulate amyloid formation and modulate systemic disease process. The archaeal cholesterol oxidase activity was increased resulting in generation of pyruvate and hydrogen peroxide. The pyruvate gets converted to glutamate and ammonia by the GABA shunt pathway. The pyruvate is converted to glutamate by serum glutamate pyruvate transaminase. The glutamate gets acted upon by glutamate dehydrogenase to generate alpha ketoglutarate and ammonia. Alanine is most commonly produced by the reductive amination of pyruvate via alanine transaminase. This reversible reaction involves the interconversion of alanine and pyruvate, coupled to the interconversion of alpha-ketoglutarate (2-oxoglutarate) and glutamate. Alanine can contribute to glycine. Glutamate is acted upon by Glutamic acid decarboxylase to generate

GABA. GABA is converted to succinic semialdehyde by GABA transaminase. Succinic semialdehyde is converted to succinic acid by succinic semialdehyde dehydrogenase. Glycine combines with succinyl CoA to generate delta aminolevulinic acid catalysed by the enzyme ALA synthase. There was upregulated archaeal porphyrin synthesis in the patient population which was archaeal in origin as indicated by actinide catalysis of the reactions. The cholesterol oxidase pathway generated pyruvate which entered the GABA shunt pathway. This resulted in synthesis of succinate and glycine which are substrates for ALA synthase. The archaea can undergo magnetite and calcium carbonate mineralization and can exist as calcified nanoforms. The possibility of Warburg phenotype induced by actinide based primitive organism like archaea with a mevalonate pathway and cholesterol catabolism was considered in this paper. The Warburg phenotype results in inhibition of pyruvate dehydrogenase and the TCA cycle. The pyruvate enters the GABA shunt pathway where it is converted to succinyl CoA. The glycolytic pathway is upregulated and the glycolytic metabolite phosphoglycerate is converted to serine and glycine. Glycine and succinyl CoA are the substrates for ALA synthesis. The archaea and viroids can regulate the nervous system including the NMDA/GABA thalamocorticothalamic pathway mediating conscious perception. Porphyrin photo-oxidation can generate free radicals which can modulate NMDA transmission. Free radicals can increase NMDA transmission. Free radicals can induce GAD and increase GABA synthesis. ALA blocks GABA transmission and upregulates NMDA. Protoporphyrins bind to GABA receptor and promote GABA transmission. Thus porphyrins can modulate the thalamocorticothalamic pathway of conscious perception. The dipolar porphyrins, PAH and archaeal magnetite in the setting of digoxin induced sodium potassium ATPase inhibition can produce a pumped phonon system mediated Frohlich model superconducting state inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. ALA can produce sodium

potassium ATPase inhibition resulting in a pumped phonon system mediated quantal state involving dipolar porphyrins. Porphyrin molecules have a wave particle existence and can bridge the dividing line between quantal state and particulate state. Thus the porphyrins can mediate conscious and quantal perception. Porphyrins binding to proteins, nucleic acids and cell membranes can produce biophoton emission. Porphyrins by autooxidation can generate biophotons and are involved in quantal perception. Biophotons can mediate quantal perception. Cellular porphyrins photooxidation are involved in sensing of earth magnetic fields and low level biomagnetic fields. Thus porphyrins can mediate extrasensory perception. The porphyrins can modulate hemispheric dominance. There is increased porphyrin synthesis and right hemispherical chemical dominance and decreased porphyrin synthesis in left hemispherical chemical dominance. The increase in archaeal porphyrins can contribute to the pathogenesis of schizophrenia and autism. Porphyria can lead to psychiatric disorders and seizures. Altered porphyrin metabolism has been described in autism. Porphyrin by modulating conscious and quantal perception is involved in the pathogenesis of schizophrenia and autism. It also plays a role in the genesis of consciousness.

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♦♦♦ Chapter 6 ♦♦♦

The Homo Neanderthalis and the Dravidians – A Common Origin and Relation to Harappan Civilisation and Vedas

Introduction

The postulated lemurian part of the Indian sub-continent in South India is inhabited by the dominant Nair community. The dominant Nair community also has a high incidence of autism. Neanderthal anthropometric features have been described in autism. Neanderthal metabolonomics have also been described in autism. It is possible that homo neanderthalis would have originated in the super continent which occupied the southern ocean. The island of Sumatra is home to another human species homo floresiensis which lived along with homo neanderthalis. This suggests an oceanic origin of homo neanderthalis in the supercontinent in the southern ocean. Recurrent Tsunamis would have forced the migration of homo neanderthalis to the Eurasian land mass especially to Harappa, Sumeria, Etruscia, Egypt and Basque country. There is a high incidence of Neanderthal genes in the Basque population. The language spoken in Harappa, Sumeria, Etruscia, Egypt and Basque country had a Dravidian substratum. The population in these areas are matrilineal and female dominant. This suggests an out of oceania hypothesis for the origin of homo neanderthalis[1-13].

Materials and Methods

Neanderthal anthropometric features were evaluated in the Nair community and in autism. The parameters checked include dolichocephalic skull, prominent supraorbital ridge and mid face large flat nose and ring finger index finger ratios.

Results

The Nair community had a high prevalence of Neanderthal anthropometric features. Neanderthal anthropometric features were also dominant in autism.

Table 1 *Incidence of autism in nair, autistic and non nair population.*

Groups	Autism	Percentage
Nair	68 cases	68
Non-nair	32 cases	32
Total	100	

Table 2 *Anthropometric features in nair, autistic and non nair population.*

Groups	Neanderthal anthropometric	Total cases	Percentage
Nair	72 cases	100	72
Non-nair	21 cases	100	21
Autism	81 cases	100	81

Discussion

Neanderthal anthropometric features were seen in autism and Nair community dominating the part of the Indian subcontinent derived from Lemuria. This suggests a lemurian supercontinent origin of the homo neanderthalis. The homo neanderthalis shared the lemurian supercontinent with another human species called homo floresiensis. Homo floresiensis has been detected in the island of Sumatra in Indonesia. The Nair community dominates the Kerala coast of South India. The Nair community is matrilineal and Dravidian. There are other civilisations speaking the Dravidian language important in human evolution like Harappa, Sumeria, Etruscia, Egypt and Basque country. These civilisations may have a Neanderthal substratum. They would have migrated to the Eurasian land mass from the lemurian supercontinent when it was destroyed by tsunamis in the Indian ocean. The Tsunamis would have evolved due to archaeal overgrowth in the

southern ocean during the ice age. The archaea are extremophiles. The archaeal overgrowth in the Indian ocean bed in the ice age would have released methane. This would have triggered movement of the earth crust, earthquakes and tsunamis. The same endosymbiotic archaeal growth would have led to evolution of homo neanderthalis. The endosymbiotic archaeal metabolism in primates would have generated the species homo neanderthalis. The homo neanderthalis contributed to the civilisations of Harappa, Sumeria, Etruscia, Egypt, Basque and Celts. They were all matrilineal with gender equality. They had a symbolic language predominantly non-vocal. Music, dance and painting as a form of communication were prevalent in these societies. This is exemplified by the Harappan language dominated by Harappan seals and the Egyptian hieroglyphics. The concept of spirituality evolved in these societies including the worship of the mother goddess.

The increased prevalence of autism in the Dravidian Nair community has been documented. Autistic children and the Nair population tend to have Neanderthal anthropometric features. The South Indian land mass was a part of the lemurian supercontinent in the Indian and Southern ocean which was destroyed by giant Tsunamis and the population inhabiting the supercontinent are represented by the Dravidian population of South India. The population that migrated from the lemurian land mass travelled over to the Eurasian land mass creating the urban civilizations of Harappa-Mohenjodaro, Sumeria, Etruscia, Basque, Celts and Egypt. All these ancient civilizations were co-terminus and existed at the same point of time at least 10,000 years BC. The Harappa-Mohenjodaro civilization is considered to be Dravidian and the Harappan script has been decoded and found to be Akkadian-Dravidian. All the Harappa-Mohenjodaro, Sumeria, Etruscia, Basque, Celts and Egypt civilizations spoke the Akkadian-Dravidian language. As has been demonstrated the Dravidian Nair community has Neanderthal anthropometric features and Neanderthal metabolonomics. All the above mentioned civilizations have a possible

Neanderthal origin. The Dravidian community is postulated to have evolved in the lemurian continent.

The homo neanderthalis would have evolved in the lemurian supercontinent in the Indian and Southern ocean during periods of extremes of weather. During the ice age and periods of global warming, there is increasing growth of the extremophilic archaea in the human body and oceanic ecosystems. The increasing growth of archaea in the ocean bed leads to release of methane which triggers catastrophic earthquakes in the oceans. This precipitates Tsunamis in the Indian ocean and one of them would have destroyed the lemurian land mass triggering a mass exodus. This would be the basis of the flood myths in history. The increasing growth of cholesterol catabolising archaea in the primates leads to evolution of homo neanderthalis. The archaea binds to the toll receptor inducing HIF alpha suppressing mitochondrial function and increasing glycolysis. The archaeal catabolism of cholesterol produces cholesterol depletion and bile acid deficiency. Both these factors induce the metabolic syndrome and insulin resistance leading to trunkal obesity and the Neanderthal phenotype. The low cholesterol levels leads to vitamin D deficiency and rickets generating the Neanderthal phenotype with the characteristic anthropometric features. The cholesterol catabolism and ring oxidation leads to generation of pyruvate which is transferred to the GABA shunt pathway. This generates glycine and succinyl CoA synthesizing porphyrins which are dipolar molecules. The cholesterol catabolism generates digoxin which inhibits membrane sodium potassium ATPase and produces a Bose-Einstein condensate via the dipolar porphyrins inducing quantal perception. The digoxin induced membrane sodium potassium ATPase inhibition depletes the cell of magnesium inhibiting reverse transcriptase activity and HERV generation. The HERV produces genomic flexibility and lack of it leads to prefrontal cortex atrophy. The porphyrin induced quantal perception of low level EMF also leading to prefrontal cortex

atrophy. There is cerebellar dominance in the Neanderthal phenotype leading onto increased intuitiveness, quantal perception, spirituality, community spirit, compassion, equality and feeling of oneness with the environment. Thus the Neanderthal phenotype would have evolved in the lemurian continent with its attached Antarctic land mass in the ice age. The Neanderthals would evolve due to similar mechanism during period of global warming. The evolution near the Antarctic part of the Lemuria and the decreasing availability of sunlight would have contributed to the light skin colour of Neanderthals. The Neanderthals following destruction of the lemurian supercontinent would have migrated to Harappa-Mohenjodaro, Sumeria, Etruscia, Basque, Celts and Egypt creating a global Dravidian civilization. This civilization had a language, was spiritual, had gender equality and social equality. It was also a creative urban civilization in Harappa-Mohenjodaro, Sumeria, Etruscia, Basque, Celts and Egypt.

The Harappa-Mohenjadaro, Sumeria, Etruscia, Basque, Celts and Egypt are essentially Dravidian and neanderthalic. The Harappan civilisation was thus similarly neanderthalic and Dravidian. The initial inhabitants of Harappa were the asuras and they are the Dravidian Neanderthals. The Rig veda had a Harappan origin. The principal God the Rig veda is Varuna – the God of the Oceans. Such a concept would have evolved only in a land mass surrounded by oceans and in ocean travelers suggesting a neanderthalic Dravidian origin of Rig veda. The Indus script has been deciphered and is supposed to be logographic and of Akkadian-Dravidian origin. The Harappan civilization had thus a language, Rig vedic religion, laws and was urbanised. The Harappan civilization originated in and was made up of Neanderthal Dravidians migrating from Lemuria destroyed by tsunamis. It was a sister civilisation to the other neanderthalic Dravidian civilizations of Sumeria, Etruscia, Basque, Celts and Egypt. It was part of the global Dravidian civilisation.

The Rig veda includes concepts of battle between asuric neanderthalic Dravidians of Harappa and the invading homo sapien devas. The homo sapien devas had a different brain structure with predominant prefrontal lobe and smaller cerebellum. They evolved out of Africa and HERV generation led to a dynamic large prefrontal cortex. They were different phenotypically from the asuric Dravidian Neanderthals. The asuric Dravidian Neanderthals were cultured with language, religion, laws and social organization. The asuric Dravidian Neanderthals were matrilineal. They were more gender-equal with alternate modes of sexual behaviour. The asuric Dravidian Neanderthals were social equal with a primitive type of communism. The homo sapien devas did not have a language, laws or religion and were relatively uncivilized. They were more patriarchal and male dominant. The homo sapien deva invasion of the neanderthalic Harappan society led to the generation of Neanderthal hybrids and the hybrids got their religion and language as well as civilized behaviour from the neanderthalic Harappan Dravidians. The basis of human creativity can be related to this interaction between the Dravidian asuric Neanderthals and the homo sapien devas. The Rig veda is basically of Dravidian neanderthalic origin. The initial global language was Akkadian-Dravidian. The Sanskrit language is a modification of the Akkadian-Dravidian script. The homo sapien deva invasion led to the collapse of the global Dravidian civilisation of Harappa-Mohenjodaro, Sumeria, Etruscia, Basque, Celts and Egypt. The great religions of the world the Judaeo-Christianity, Muslim and Hindu are basically Dravidian Neanderthal and Semitic. The Dravidian Neanderthal community migrating out of Lemuria was the basis of the Semitic community and the Semitic religions of the world. The neanderthalic brain was attuned to quantal perception and spirituality.

In the present situation of global warming there is an increased growth of archaea in the human system and neanderthalisation of humans. The Neanderthals have returned and the human brain is becoming neanderthalic in

behavior and function. This is responsible for the rising tide of autism, schizophrenia and metabolic syndrome x in the world.

The metal actinides provide radiolytic energy, catalysis for oligomer formation and provide a coordinating ion for metalloenzymes all important in abiogenesis. The metal actinide surfaces would by surface metabolism generate acetate which could get converted to acetyl CoA and then to cholesterol which functions as the primal prebiotic molecule self organizing into self replicating supramolecular systems, the lipid organism. Cholesterol by radiolysis by actinides would have formed PAH generating PAH aromatic organism. Cholesterol radiolysis would generate pyruvate which would get converted to amino acids, sugars, nucleotides, porphyrins, fatty acids and TCA acids. Anastase and rutile surfaces can produce polymerization of amino acids, isoprenyl residues, PAH and nucleotides to generate the initial lipid organism, PAH organism, prions and RNA viroids which would have symbiosed to generate the archaeal protocell. The archaea evolved into gram negative and gram positive bacteria with a mevalonate pathway which had an evolutionary advantage and the symbiosis of archaea with gram negative organism generated the eukaryotic cell. The data supports the persistence of an actinide and cholesterol based shadow biosphere which throws light on the actinide based origin of life and cholesterol as the premier prebiotic molecule. The presence of placer deposits and mineral sands containing monazite, illmenite, rutile and thorium in the lemurian supercontinent would have made it the ideal place for the primitive cell, nanoarchaea, eukaryote, multicellular eukaryote, primates and humans to evolve. Anthropological studies have provided evidence for the evolution of primates and homo sapiens in the rift valley of Kenya part of the prehistoric lemurian continent.

The archaea can synthesize magnetite by biomineralisation. The archaeal cholesterol catabolism can generate PAH. The archaea can exist as nanoarchaea and can have calcified nanoforms. The actinidic magnetotactic nanoarchaea and its secreted PAH organisms are extremophiles and survive in the interstellar space and can contribute to the interstellar grains and magnetic fields which play a role in the formation of the galaxies and star systems. The cosmic dust grains occupy the intergalactic space and are thought to be formed of magnetotactic bacteria identified according to their spectral signatures. According to the Hoyle's hypothesis, the cosmic dust magnetotactic bacteria play a role in the formation of the intergalactic magnetic field. A magnetic field equal in strength to about one millionth part of the magnetic field of earth exists throughout much of our galaxy. The magnetic files can be used to trace the spiral arms of the galaxy following a pattern of field lines that connect young stars and dust in which new stars are formed at a rapid rate. Studies have shown that a fraction of the dust particles have elongated shape similar to bacilli and they are systematically lined up in our galaxy. Moreover the direction of alignment is such that the long axes of the dust tend to be at right angles to the direction of the galactic magnetic field at every point. Magnetotactic bacteria have the property to affect the degree of alignment that is observed. The fact that the magnetotactic bacteria appear to be connected to the magnetic field lines that thread through the spiral arms of the galaxy connecting one region of star formation to another support a role for them in star formation and in the mass distribution and rotation of stars. The nutrient supply for a population of interstellar bacteria comes from mass flows out of supernovas populating the galaxy. Giants arising in the evolution of such stars experience a phenomenon in which material containing nitrogen, carbon monoxide, hydrogen, helium, water and trace elements essential for life flows continuously outward into space. The interstellar bacteria need liquid water. Water exists only as vapour or solid in the interstellar space and only through star formation leading to

associated planets and cometary bodies can there be access to liquid water. To control conditions leading to star formation is of paramount importance in cosmic biology. The rate of star formation is controlled by two factors: Too high a rate of star formation produces a destructive effect of UV radiation and destroys cosmic biology. Star formation as stated before produces water crucial for bacterial growth. Cosmic biology of magnetotactic bacteria and star formation are thus closely interlinked. Systems like solar systems do not arise in random condensation of blobs of interstellar gas. Only by a rigorous control of rotation of various parts of the system would galaxies and solar system evolved. The key to maintaining control over rotation seems to lie in the intergalactic magnetic field as indeed the whole phenomena of star formation. The intergalactic magnetic fields owes its origin to the lining up of magnetotactic bacteria and the cosmic biology of interstellar bacteria can prosper only by maintaining a firm grip on the interstellar magnetic field and hence on the rate of star formation and type of star system produced. This points to a cosmic intelligence or brain capable of computation, analysis and exploration of the universe at large – of magnetotactic bacterial networks. The origin of life on earth according to the Hoyle's hypothesis would be by seeding of bacteria from the outer intergalactic space. Comets carrying micro organisms would have interacted with the earth. A thin skin of graphitized material around a single bacteria or clumps of bacteria can shield the interior from destruction by UV light. The sudden surge and diversification of species of plants and animals and their equally sudden extinction has seen from fossil records point to sporadic evolution produced by induction of fresh cometary genes with the arrival of each major new crop of comets. The interstellar PAH aromatic organism is formed from nanoarchaeal cholesterol catabolism. The PAH and cholesterol are the interconvertable primal prebiotic molecules. PAH aromatic organism and nanoarchaeal magnetite can have a wave particle existence and bridge the world of bosons and fermions. The nanoarchaea can form biofilms and the PAH

aromatic organism can form a molecular quantum computing cloud in the biofilm which forms an interstellar intelligence regulating the formation of star systems and galaxies. The magnetite loaded nanoarchaeal biofilms and PAH aromatic organism quantal computing cloud can bridge the wave particle world functioning as the anthropic observer sensing gravity which orchestrates the reduction of the quantal world of possibilities in to the macroscopic world. The actinide based nanoarchaea can regulate the earth's carbon cycle by methanogenesis, nitrogen cycle by ammonia oxidation and rain formation by contributing the seeding nucleus. The earth's temperature and global warming and cooling are regulated by nanoarchaeal synthesized PAH from cholesterol and methanogenesis. The increased nanoarchaeal growth in ocean beds and soil leads to increased methane production and movement of the earth's crust producing tsunamis and massive earthquake leading to catastrophic mass extinction. This nanoarchaeal growth in the Southern ocean and Indian ocean bed due to global warming induced by civilisational progress and human activity would have led to methane burps in the ocean bed contributing to massive earthquakes leading onto tsunamis. This would have led to catastrophic destruction of the lemurian supercontinent. The migration of the lemurian survivors into the Indian sub-continent Indus valley, the Nile valley and the Mesopotamian valley would have contributed to the origin of the Harappan, Sumerian and Egyptian civilization which have all evolved during the same period of human history. The eternal nanoarchaea survive and start the cycle of evolution once more. The actinide based nanoarchaea regulates the human system and biological universe.

The actinidic nanoarchaeal growth would have led to methane burps in the ocean bed contributing to earthquakes and Tsunamis producing extinction of the lemurian supercontinent. It also supports the abiogenesis on radioactive actinidic beach sands through the process of surface metabolism. This gives

support to the role of actinidic archaea as the third element that controls life and its role in the evolution of the multicellular eukaryote, primates and humans. Civilisation and humans would have evolved in the placer deposits and actinidic sand rich pre-historic lemurian supercontinent in the Indian and Southern ocean.

The increased prevalence of the Neanderthal anthropometric features in the Nair community and autism suggests a lemurian origin for homo neanderthalis. This suggests an out of oceania hypothesis for homo neanderthalis with later migration to the Eurasian land mass consequent to destruction of the supercontinent by Tsunamis. The Tsunamis would have been precipitated by increased archaeal growth in the oceanic beds and movements in the earth crust produced by released methane. The homo neanderthalis also originated due to increased endosymbiotic actinidic archaeal growth.

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♦♦♦ Chapter 7 ♦♦♦

Porphyrin Mediated Bose-Einstein's Condensates Mediate Conscious and Quantal Perception and Functions as Observer for the Quantal World – Generating the Macroscopic Universe

Introduction

Dipolar porphyrins have a wave-particle existence and can mediate quantal and conscious perception by forming Bose-Einstein condensates. Actinidic archaea can synthesize porphyrins by cholesterol catabolism. Actinidic archaea by inducing ferrochelatase and heme oxygenase can produce heme depletion and porphyrin synthesis. Porphyrins can modulate the NMDA/GABAergic thalamocorticothalamic pathway mediating conscious perception. Porphyrins being dipolar can generate Bose-Einstein's condensate in the setting of porphyrin induced sodium potassium ATPase inhibition mediated paroxysmal depolarisation shift in neuronal membrane. This mediates quantal perception. These objectives are studied with regard to conscious and quantal perception in subjects with disorders of consciousness-schizophrenia, seizure disorder and autism. The results are presented in this report and a hypothesis formulated[1-5].

Materials and Methods

The following groups were included in the study: – schizophrenia, seizure disorder and autism. There were 10 patients in each group and each patient had an age and sex matched healthy control selected randomly from the general population. There were also 10 normal people with right hemispheric dominance, left hemispheric dominance and bihemispheric dominance included in the study selected from the normal population. The blood samples were drawn in the fasting state before treatment was initiated. Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+rutile 0.1 mg/ml, (IV) same as II+ciprofloxacine and doxycycline each in a concentration of 1 mg/ml. The following estimations were carried out: – Cytochrome F420,

free RNA, free DNA, polycyclic aromatic hydrocarbon, hydrogen peroxide, pyruvate, ammonia, glutamate, succinate, glycine, delta aminolevulinic acid and digoxin. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). Polycyclic aromatic hydrocarbon was estimated by measuring hydrogen peroxide liberated by using glucose reagent. The study also involved estimating the following parameters in the patient population – digoxin, bile acid, hexokinase, porphyrins, pyruvate, glutamate, ammonia, acetyl CoA, acetyl choline, HMG CoA reductase, cytochrome C, blood ATP, ATP synthase, ERV RNA (endogenous retroviral RNA), H2O2 (hydrogen peroxide), NOX (NADPH oxidase), TNF alpha and heme oxygenase[6-9]. Informed consent of the subjects and the approval of the ethics committee were obtained for the study. The statistical analysis was done by ANOVA.

Results

Plasma of control subjects showed increased levels of the above mentioned parameters with after incubation for 1 hour and addition of cholesterol substrate resulted in still further significant increase in these parameters. The plasma of patients and those with exposure to low level of EMF showed similar results but the extent of increase was more. The addition of antibiotics to the control plasma caused a decrease in all the parameters while addition of rutile increased their levels. The addition of antibiotics to the patient's plasma and those with exposure to low level of EMF caused a decrease in all the parameters while addition of rutile increased their levels but the extent of change was more in patient's sera as compared to controls. The results are expressed in tables section 1 – 1-6 as percentage change in the parameters after 1 hour incubation as compared to the values at zero time. There was upregulated archaeal porphyrin synthesis in the patient population and those with exposure to low level of EMF which was archaeal in origin as indicated by actinide catalysis of the reactions. The

cholesterol oxidase pathway generated pyruvate which entered the GABA shunt pathway. This resulted in synthesis of succinate and glycine which are substrates for ALA synthase.

The study showed the patient's blood, those with exposure to low level of EMF and right hemispheric dominance had increased heme oxygenase activity and porphyrins. The hexokinase activity was high. The pyruvate, glutamate and ammonia levels were elevated indicating blockade of PDH activity, and operation of the GABA shunt pathway. The acetyl CoA levels were low and acetyl choline was decreased. The cyto C levels were increased in the serum indicating mitochondrial dysfunction suggested by low blood ATP levels. This was indicative of the Warburg's phenotype. There was increased NOX and TNF alpha level indicating immune activation. The HMG CoA reductase activity was high indicating cholesterol synthesis. The bile acid levels were low indicating depletion of cytochrome P450. The normal population with right hemispheric dominance had values resembling the patient population with increased porphyrin synthesis. The normal population with left hemispheric dominance had low values with decreased porphyrin synthesis.

Section 1: Experimental Study

Table 1 *Effect of rutile and antibiotics on cytochrome F420 and PAH.*

Group	CYT F420 % (Increase with Rutile)		CYT F420 % (Decrease with Doxy+Cipro)		PAH % change (Increase with Rutile)		PAH % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.48	0.15	18.24	0.66	4.45	0.14	18.25	0.72
Schizo	23.24	2.01	58.72	7.08	23.01	1.69	59.49	4.30
Seizure	23.46	1.87	59.27	8.86	22.67	2.29	57.69	5.29
Autism	21.68	1.90	57.93	9.64	22.61	1.42	64.48	6.90
Low level EMF	22.70	1.87	60.46	8.06	23.73	1.38	65.20	6.20
	F value 306.749 P value < 0.001		F value 130.054 P value < 0.001		F value 391.318 P value < 0.001		F value 257.996 P value < 0.001	

Table 2 *Effect of rutile and antibiotics on free RNA and DNA.*

Group	DNA % change (Increase with Rutile)		DNA % change (Decrease with Doxy+Cipro)		RNA % change (Increase with Rutile)		RNA % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.37	0.15	18.39	0.38	4.37	0.13	18.38	0.48
Schizo	23.28	1.70	61.41	3.36	23.59	1.83	65.69	3.94
Seizure	23.40	1.51	63.68	4.66	23.08	1.87	65.09	3.48
Autism	22.12	2.44	63.69	5.14	23.33	1.35	66.83	3.27
Low level EMF	22.29	2.05	58.70	7.34	22.29	2.05	67.03	5.97
	F value 337.577 P value < 0.001		F value 356.621 P value < 0.001		F value 427.828 P value < 0.001		F value 654.453 P value < 0.001	

Table 3 *Effect of rutile and antibiotics on digoxin and delta aminolevulinic acid.*

Group	Digoxin (ng/ml) (Increase with Rutile)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)		ALA % (Increase with Rutile)		ALA % (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	0.11	0.00	0.054	0.003	4.40	0.10	18.48	0.39
Schizo	0.55	0.06	0.219	0.043	22.52	1.90	66.39	4.20
Seizure	0.51	0.05	0.199	0.027	22.83	1.90	67.23	3.45
Autism	0.53	0.08	0.205	0.041	23.20	1.57	66.65	4.26
Low level EMF	0.51	0.05	0.213	0.033	22.29	2.05	61.91	7.56
	F value 135.116 P value < 0.001		F value 71.706 P value < 0.001		F value 372.716 P value < 0.001		F value 556.411 P value < 0.001	

Table 4 *Effect of rutile and antibiotics on succinate and glycine.*

Group	Succinate % (Increase with Rutile)		Succinate % (Decrease with Doxy+Cipro)		Glycine % change (Increase with Rutile)		Glycine % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.41	0.15	18.63	0.12	4.34	0.15	18.24	0.37
Schizo	22.76	2.20	67.63	3.52	22.79	2.20	64.26	6.02
Seizure	22.28	1.52	64.05	2.79	22.82	1.56	64.61	4.95
Autism	21.88	1.19	66.28	3.60	23.02	1.65	67.61	2.77
Low level EMF	22.29	1.33	65.38	3.62	22.13	2.14	66.26	3.93
	F value 403.394 P value < 0.001		F value 680.284 P value < 0.001		F value 348.867 P value < 0.001		F value 364.999 P value < 0.001	

Table 5 *Effect of rutile and antibiotics on pyruvate and Glutamate.*

Group	Pyruvate % change (Increase with Rutile)		Pyruvate % change (Decrease with Doxy+Cipro)		Glutamate (Increase with Rutile)		Glutamate (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.34	0.21	18.43	0.82	4.21	0.16	18.56	0.76
Schizo	20.99	1.46	61.23	9.73	23.01	2.61	65.87	5.27
Seizure	20.94	1.54	62.76	8.52	23.33	1.79	62.50	5.56
Autism	21.91	1.71	58.45	6.66	22.88	1.87	65.45	5.08
Low level EMF	22.29	2.05	62.37	5.05	21.66	1.94	67.03	5.97
	F value 321.255 P value < 0.001		F value 115.242 P value < 0.001		F value 292.065 P value < 0.001		F value 317.966 P value < 0.001	

Table 6 *Effect of rutile and antibiotics on hydrogen peroxide and Ammonia.*

Group	H_2O_2 % (Increase with Rutile)		H_2O_2 % (Decrease with Doxy+Cipro)		Ammonia % (Increase with Rutile)		Ammonia % (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.43	0.19	18.13	0.63	4.40	0.10	18.48	0.39
Schizo	22.50	1.66	60.21	7.42	22.52	1.90	66.39	4.20
Seizure	23.81	1.19	61.08	7.38	22.83	1.90	67.23	3.45
Autism	23.52	1.49	63.24	7.36	23.20	1.57	66.65	4.26
Low level EMF	23.29	1.67	60.52	5.38	22.29	2.05	61.91	7.56
	F value 380.721 P value < 0.001		F value 171.228 P value < 0.001		F value 372.716 P value < 0.001		F value 556.411 P value < 0.001	

Section 2: Patient Study

Table 1

Group	RBC digoxin (ng/ml RBC Susp)		Cytochrome F 420		HERV RNA (ug/ml)		H_2O_2 (umol/ml RBC)		NOX (OD diff/hr/mgpro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	0.58	0.07	1.00	0.00	17.75	0.72	177.43	6.71	0.012	0.001
RHCD	1.41	0.23	4.00	0.00	55.17	5.85	278.29	7.74	0.036	0.008
LHCD	0.18	0.05	0.00	0.00	8.70	0.90	111.63	5.40	0.007	0.001
Schizophrenia	1.38	0.26	4.00	0.00	51.17	3.65	274.88	8.73	0.036	0.009
Seizure	1.23	0.26	4.00	0.00	50.04	3.91	278.90	11.20	0.038	0.007
Autism	1.19	0.24	4.00	0.00	52.87	7.04	274.52	9.29	0.036	0.006
Exposure to EMF	1.41	0.30	4.00	0.00	51.01	4.77	276.49	10.92	0.038	0.007
F value	60.288		0.001		194.418		713.569		44.896	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 2

Group	TNF ALP (pg/ml)		ALA (umol24)		PBG (umol24)		Uroporphyrin (nmol24)		Coproporphyrin (nmol/24)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	17.94	0.59	15.44	0.50	20.82	1.19	50.18	3.54	137.94	4.75
RHCD	78.63	5.08	63.50	6.95	42.20	8.50	250.28	23.43	389.01	54.11
LHCD	9.29	0.81	3.86	0.26	12.11	1.34	9.51	1.19	64.33	13.09
Schizophrenia	78.23	7.13	66.16	6.51	42.50	3.23	267.81	64.05	401.49	50.73
Seizure	79.28	4.55	68.28	6.02	46.54	4.55	290.44	57.65	436.71	52.95
Autism	76.71	5.25	68.16	4.92	42.04	2.38	318.84	82.90	423.29	47.57
Exposure to EMF	76.41	5.96	68.41	5.53	47.27	3.42	288.21	26.17	444.94	38.89
F value	427.654		295.467		183.296		160.533		279.759	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 3

Group	Protoporphyrin (Ab unit)		Heme (uM)		Bilirubin (mg/dl)		Biliverdin (Ab unit)		ATP synthase (umol/gHb)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	10.35	0.38	30.27	0.81	0.55	0.02	0.030	0.001	0.36	0.13
RHCD	42.46	6.36	12.47	2.82	1.70	0.20	0.067	0.011	2.73	0.94
LHCD	2.64	0.42	50.55	1.07	0.21	0.00	0.017	0.001	0.09	0.01
Schizophrenia	44.30	2.66	12.82	2.40	1.74	0.08	0.073	0.013	2.66	0.58
Seizure	49.59	1.70	13.03	0.70	1.84	0.07	0.070	0.015	3.09	0.65
Autism	47.50	2.87	12.37	2.09	1.83	0.16	0.072	0.014	2.67	0.80
Exposure to EMF	50.59	1.71	12.36	1.26	1.75	0.22	0.073	0.013	3.39	1.03
F value	424.198		1472.05		370.517		59.963		54.754	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 4

Group	SE ATP (umol/dl)		Cyto C (ng/ml)		Lactate (mg/dl)		Pyruvate (umol/l)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	0.42	0.11	2.79	0.28	7.38	0.31	40.51	1.42
RHCD	2.24	0.44	12.39	1.23	25.99	8.10	100.51	12.32
LHCD	0.02	0.01	1.21	0.38	2.75	0.41	23.79	2.51
Schizophrenia	1.26	0.19	11.58	0.90	22.07	1.06	96.54	9.96
Seizure	1.66	0.56	12.06	1.09	21.78	0.58	90.46	8.30
Autism	2.03	0.12	12.48	0.79	21.95	0.65	92.71	8.43
Exposure to EMF	1.37	0.27	12.26	1.00	23.31	1.46	103.28	11.47
F value	67.588		445.772		162.945		154.701	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 5

Group	RBC Hexokinase (ug glu phos/ hr/mgpro)		ACOA (mg/dl)		ACH (ug/ml)		Glutamate (mg/dl)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	1.66	0.45	8.75	0.38	75.11	2.96	0.65	0.03
RHCD	5.46	2.83	2.51	0.36	38.57	7.03	3.19	0.32
LHCD	0.68	0.23	16.49	0.89	91.98	2.89	0.16	0.02
Schizo	7.69	3.40	2.51	0.57	48.52	6.28	3.41	0.41
Seizure	6.29	1.73	2.15	0.22	33.27	5.99	3.67	0.38
CJD	8.81	4.26	2.42	0.41	50.61	6.32	3.30	0.32
Exposure to EMF	7.58	3.09	2.14	0.19	37.75	7.31	3.47	0.37
F value	18.187		1871.04		116.901		200.702	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 6

Group	Se. ammonia (ug/dl)		HMG Co A (HMG CoA/MEV)		Bile acid (mg/ml)	
	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	50.60	1.42	1.70	0.07	79.99	3.36
RHCD	93.43	4.85	1.16	0.10	25.68	7.04
LHCD	23.92	3.38	2.21	0.39	140.40	10.32
Schizophrenia	94.72	3.28	1.11	0.08	22.45	5.57
Seizure	95.61	7.88	1.14	0.07	22.98	5.19
Autism	94.01	5.00	1.12	0.06	23.16	5.78
Exposure to EMF	102.62	26.54	1.00	0.07	22.58	5.07
F value	61.645		159.963		635.306	
P value	< 0.001		< 0.001		< 0.001	

Abbreviations

NO/BHCD: Normal/Bi-hemispheric chemical dominance

RHCD: Right hemispheric chemical dominance

LHCD: Left hemispheric chemical dominance

Discussion

There was increase in cytochrome F420 indicating archaeal growth. The archaea can synthesize and use cholesterol as a carbon and energy source[2, 10]. The archaeal origin of the enzyme activities was indicated by antibiotic induced suppression. The study indicates the presence of actinide based archaea with an alternate actinide based enzymes or metalloenzymes in the system as indicated by rutile induced increase in enzyme activities[11]. The archaeal beta hydroxyl steroid dehydrogenase activity indicating digoxin synthesis[12]. The archaeal cholesterol oxidase activity was increased resulting in generation of pyruvate and hydrogen peroxide[10]. The pyruvate gets converted to glutamate and ammonia by the GABA shunt pathway. The pyruvate is converted to glutamate

by serum glutamate pyruvate transaminase. The glutamate gets acted upon by glutamate dehydrogenase to generate alpha ketoglutarate and ammonia. Alanine is most commonly produced by the reductive amination of pyruvate via alanine transaminase. This reversible reaction involves the interconversion of alanine and pyruvate, coupled to the interconversion of alpha-ketoglutarate (2-oxoglutarate) and glutamate. Alanine can contribute to glycine. Glutamate is acted upon by Glutamic acid decarboxylase to generate GABA. GABA is converted to succinic semialdehyde by GABA transaminase. Succinic semialdehyde is converted to succinic acid by succinic semialdehyde dehydrogenase. Glycine combines with succinyl CoA to generate delta aminolevulinic acid catalysed by the enzyme ALA synthase. There was upregulated archaeal porphyrin synthesis in the patient population which was archaeal in origin as indicated by actinide catalysis of the reactions. The cholesterol oxidase pathway generated pyruvate which entered the GABA shunt pathway. This resulted in synthesis of succinate and glycine which are substrates for ALA synthase. The archaea can undergo magnetite and calcium carbonate mineralization and can exist as calcified nanoforms[13].

The generation of the Warburg phenotype can produce porphyrinogenesis. An actinide dependent shadow biosphere of archaea and viroids in autism, schizophrenia and seizure disorder is described. The archaea can synthesize porphyrins and induce porphyrin synthesis. Porphyrins have been related to autism, schizophrenia and seizure disorder. Porphyrins can mediate the effect of low level electromagnetic fields inducing the Warburg phenotype leading to the above mentioned disease states. The Warburg phenotype results in inhibition of pyruvate dehydrogenase and the TCA cycle. The pyruvate enters the GABA shunt pathway where it is converted to succinyl CoA. The glycolytic pathway is upregulated and the glycolytic metabolite phosphoglycerate is converted to serine and glycine. Glycine and succinyl CoA are the substrates for ALA synthesis. The

archaea induces the enzyme heme oxygenase. Heme oxygenase converts heme to bilirubin and biliverdin. This depletes heme from the system and results in upregulation of ALA synthase activity resulting in porphyria. Heme inhibits HIF alpha. The heme depletion results in upregulation of HIF alpha activity and further strengthening of the Warburg phenotype. The porphyrin self oxidation results in redox stress which activates HIF alpha and generates the Warburg phenotype. The Warburg phenotype results in channeling acetyl CoA for cholesterol synthesis as the TCA cycle and mitochondrial oxidative phosphorylation are blocked. The archaea uses cholesterol as an energy substrate. Porphyrin and ALA inhibits sodium potassium ATPase. This increases cholesterol synthesis by acting upon intracellular SREBP. The cholesterol is metabolised to pyruvate and then the GABA shunt pathway for ultimate use in porphyrin synthesis. The porphyrins can self organize and self replicate into macromolecular arrays. The porphyrin arrays behave like an autonomous organism and can have intramolecular electron transport generating ATP. The porphyrin macroarrays can store information and can have quantal perception. The porphyrin macroarrays serves the purpose of archaeal energetics and sensory perception. The Warburg phenotype is associated with autism and schizophrenia.

Porphyrin can regulate the brain mediating conscious and quantal perception. Porphyrin microarrays serve the purpose of quantal and conscious perception. The archaea and viroids via porphyrin synthesis can regulate the nervous system including the NMDA/GABA thalamo-cortico-thalamic pathway mediating conscious perception. Porphyrin photo-oxidation can generate free radicals which can modulate NMDA transmission. Free radicals can increase NMDA transmission. Free radicals can induce GAD and increase GABA synthesis. ALA blocks GABA transmission and upregulates NMDA. Protoporphyrins bind to GABA receptor and promote GABA transmission. Thus porphyrins can modulate the thalamo-cortico-thalamic pathway of conscious perception.

Consciousness involves three parameters – working memory, perceptual synchronization and focussed attention. Working memory is mediated by the reverberatory thalamo-cortico-thalamic circuit. Focussed attention depends upon projections from the thalamic reticular nucleus to the thalamocorticothalamic circuit which is gated by these NMDA/GABAergic fibers. Porphyrins can modulate the NMDA/GABAergic thalamo-cortico-thalamic reverberatory circuit and the gating thalamoreticular nuclear projections to the thalamo-cortico-thalamic pathway. Perceptual synchronization is a quantal phenomena depending upon the quasicrystal tiling effect mediated by contraction and retraction of dendritic spines. Porphyrins binding to dendritic spine proteins can modulate the contraction and retraction of dendritic spines. Porphyrin binding to dendritic spine proteins can also produce biophoton emission and a quantal state.

The brain functions as a quantum computer with quantum computer memory elements constituted of superconducting quantum interference devices – the SQUIDS which can exists as superpositions of macroscopic states. Bose condensation, the basis of superconductivity is achievable at room temperature in the Frohlich model in biological systems. The dielectric dipolar porphyrins are excellent electric dipole oscillators which exist under a steep neuronal membrane voltage gradient. The individual oscillators are energised with constant source of pumping energy from outside by porphyrin binding to membrane sodium potassium ATPase and producing a paroxysmal depolarisation shift in the neuronal membrane. This prevents the dipole oscillators from ever settling into thermal equilibrium with the cytoplasm and the interstitial fluid which is always kept at constant temperature. Bose condensed states produced by porphyrin mediated dielectric magnetite molecular pumped phonon system could be used to store information which might be encoded – all within the lowest collective frequency mode – by appropriately adjusting the amplitude and phase relations between the dipole oscillators. The external world sensory impression exists in

the dipole oscillators as probabilistic multiple superimposed patterns – the U phase of quantum mechanics. The part of the incoming quantal data maps of the external world built by subliminal perception in logical sequence and corollary to the external cortical world map built by conscious perception is chosen. Porphyrin by acting on neuronal membrane helps to magnify the chosen map to one graviton criteria and to the threshold required for the neuronal network to fire and consciousness. The porphyrin microarray sensed gravity can also produce the orchestrated reduction of the quantal possibilities to the macroscopic world. Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Cellular porphyrins photo-oxidation is involved in sensing of earth magnetic fields and low level biomagnetic fields. The comparison between subliminally perceived quantal maps and previous cortical maps stored in synaptic networks occurs by quantal non-local quasicrystal tiling effect which mediates the activation and deactivation of synapses through contraction and growth of dendritic spines. Porphyrin binding to sodium potassium ATPase can modulate lipid microdomains in neuronal membrane altering the conformation of dendritic spine proteins bound to neuronal membrane. This can contribute to contraction and growth of dendritic spines and the quasicrystal tilling effect. The R part of quantal subthreshold perception is not deterministic and it introduces a completely random element into the time evolution and in the operation of R, there might be a role of free will. In the quantal perception there is no past, present or future. All of them can exist together. This gives an explanation for the extrasensory perception and premonitions and visions of the past. Also in the quantal state, non-locality and action at a distance is possible. This can explain psychokinesis and mind travel. The information stored in one brain can be quantally transferred to another brain raising the possibility of reincarnative experiences. Quantal perception model of brain function can give an explanation for hypnosis. In the quantal state, depending on the observer function of consciousness matter can be created out of void. The quantal state comes to the

particulate state only when there is a quantal observer. Consciousness depends upon quantal subliminal perception by cortical dipole magnetite oscillators. The external world comes into existence depending on the observer function of consciousness. Thus consciousness and the external world are interdependent and the external world exists because of the act of observation. The world is a mirage and is a reflection of the observer function of the consciousness[19].

Porphyrins have a wave-particle existence and can bridge the gap between the fermionic and bosonic world and function as the ubiquitous quantal observer. This can create a Higgs field of Higgs bosons which on interaction with subatomic electrons, protons and neutrons gives them mass and existence. The mass of the fundamental particles of nature are determined by the strength of their interactions with Higgs Bosonic field generated by dipolar porphyrin Bose-Einstein condensate. Without Higgs particle matter in the universe will have no mass. Without porphyrin microarray Bose-Einstein's condensate functioning as the quantal observer the macroscopic world would not come into existence. The biological macroscopic particulate universe comes into existence because of dipolar porphyrin bose-einstein's condensates functioning as quantal observer.

Porphyrins can modulate interactions between consciousness and extraneous low level electromagnetic fields and digital information storage systems. The dipolar porphyrins in the setting of digoxin induced sodium potassium ATPase inhibition can produce a pumped phonon system mediated Frohlich model superconducting state inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. ALA can produce sodium potassium ATPase inhibition resulting in a pumped phonon system mediated quantal state involving dipolar porphyrins. Porphyrins by auto-oxidation can generate biophotons and are involved in quantal perception. Biophotons can mediate quantal perception.

Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Cellular porphyrins photo-oxidation is involved in sensing of earth magnetic fields and low level biomagnetic fields. Porphyrins can thus contribute to quantal perception. Low level electromagnetic fields and light can induce porphyrin synthesis. Low level EMF can produce ferrochelatase inhibition as well as heme oxygenase induction contributing to heme depletion, ALA synthase induction and increased porphyrin synthesis. Light also induces ALA synthase and porphyrin synthesis. The increased porphyrin synthesized can contribute to increased quantal perception and can modulate conscious perception. The human porphyrin microarrays induced biophotons and quantal fields can modulate the source from which low level EMF and photic fields were generated. Thus the porphyrin generated by extraneous low level EMF and photic fields can interact with the source of low level EMF and photic fields modulating it. Thus porphyrins can serve as a bridge between the human brain and the source of low level EMF and photic fields. This serves as a mode of communication between the human brain and digital EMF storage devices like internet. The porphyrins can also serve as the source of communication with the environment. Environmental EMF and chemicals produce heme oxygenase induction and heme depletion increasing porphyrin synthesis, quantal perception and two-way communication. Thus induction of porphyrin synthesis can serve as a mechanism of communication between human brain and the environment by extrasensory perception. Porphyrin microarrays can function as quantal computers storing information and can serve the purpose of extrasensory perception. Porphyrins can serve as a two way communicating bridge between digital information storage systems generating low level electromagnetic fields and human systems. The low level of EMF produced by digital system enhances porphyrin synthesis and serves the purpose of two way extrasensory perception and communication. The human porphyrin

quantal computers can in turn by biophoton emission modulate digital information storage system.

Porphyrins can modulate the phenomena of biological reincarnation. The porphyrin microarrays can store all the world experiences in dipole oscillators serving as a store of biological quantal information. The archaea and porphyrins are eternal and never die. The archaeal porphyrin microarrays can carry all the biological information in the world for eternity. The cellular porphyrin microarrays can carry the biological information in the quantal porphyrin microarray computers to the embryonal cells mediating a form of biological reincarnation. The eternal porphyrin microarrays functioning as quantal computers can serve as a source of preexisting biological information of a previous life for the purpose of building up the present biological personality of a new individual in continuation with experiences in previous life stored in porphyrin microarray quantal computers. The quantal perception mediated by porphyrin microarray quantal computer also gives rise to the phenomena of the collective unconscious where the biological information stored archaeal magnetite quantal computers in different brains function as one single undivided whole[19].

The porphyrins can modulate hemispheric dominance. There is increased porphyrin synthesis and RHCD and decreased porphyrin synthesis in LHCD. The increase in archaeal porphyrins can contribute to the pathogenesis of schizophrenia and autism. Porphyria can lead to psychiatric disorders and seizures. Altered porphyrin metabolism has been described in autism. Porphyrins by modulating conscious and quantal perception is involved in the pathogenesis of schizophrenia and autism[3, 4, 16]. Thus porphyrins microarrays can function as a quantal brain modulating extrasensory quantal perception. Porphyrin microarrays can function as a quantal brain in communication with digital world and geomagnetic fields.

Porphyrin microarrays function as quantal computers mediating conscious and quantal perception. The porphyrins have contributed to abiogenesis and the origin of life as well as biological universe. The metal actinides provide radiolytic energy, catalysis for oligomer formation and provide a co-ordinating ion for metalloenzymes all important in abiogenesis[6]. The metal actinide surfaces would by surface metabolism generate porphyrins from simple compounds like succinic acid and glycine. Porphyrins can exist as wave forms and particulate forms and can bridge the dividing line between the quantal world and particulate world. Porphyrin molecules can self organize into organisms with energy transduction, ATP synthesis and information storage with replicating capacity. A self replicating porphyrin micro-organism may have played a role in the origin of life. Porphyrins can form templates on which macromolecules like polysaccharides, protein and nucleic acids can form. The macromolecules generated on actinidic porphyrins templates would have contributed to the actinidic nanoarchaea and the original organisms on earth. The data supports the persistence of an actinidic archaeal shadow biosphere which throws light on the actinide based origin of life and porphyrins as the premier prebiotic molecule[17, 18]. Porphyrins play an important role in the genesis of the biological universe. The porphyrin macroarrays can form in the interstellar space on its own as porphyrins can exist both as particles and waves. Porphyrins form the bridging connection between the quantal world and the particulate world. The self generated porphyrins from the quantal foam can self organize to form macroarrays, can store information and self replicate. This can be called as an abiotic porphyrin organism. The porphyrin template would have generated nucleic acids, proteins, polysaccarides and isoprenoids. This would have generated actinidic nanoarchaea in the interstellar space. The porphyrins have magnetic properties and the interstellar porphyrin organism can contribute to the interstellar grains and interstellar magnetic fields. The cosmic dust grains of porphyrin macroarrays/nanoarchaeal organism occupy the intergalactic space and are thought to be formed of magnetotactic bacteria

identified according to their spectral signatures. According to the Hoyle's hypothesis, the cosmic dust magnetotactic porphyrin macroarrays/nanoarchaeal organism plays a role in the formation of the intergalactic magnetic field. A magnetic field equal in strength to about one millionth part of the magnetic field of earth exists throughout much of our galaxy. The magnetic files can be used to trace the spiral arms of the galaxy following a pattern of field lines that connect young stars and dust in which new stars are formed at a rapid rate. Studies have shown that a fraction of the dust particles have elongated shape similar to bacilli and they are systematically lined up in our galaxy. Moreover the direction of alignment is such that the long axes of the dust tend to be at right angles to the direction of the galactic magnetic field at every point. Magnetotactic porphyrin macroarrays/nanoarchaeal organism have the property to affect the degree of alignment that is observed. The fact that the magnetotactic porphyrin macroarrays/nanoarchaeal organisms appear to be connected to the magnetic field lines that thread through the spiral arms of the galaxy connecting one region of star formation to another support a role for them in star formation and in the mass distribution and rotation of stars. The nutrient supply for a population of interstellar porphyrin macroarrays/nanoarchaeal organisms comes from mass flows out of supernovas populating the galaxy. Giants arising in the evolution of such stars experience a phenomenon in which material containing nitrogen, carbon monoxide, hydrogen, helium, water and trace elements essential for life flows continuously outward into space. The interstellar organisms need liquid water. Water exists only as vapour or solid in the interstellar space and only through star formation leading to associated planets and cometary bodies can there be access to liquid water. To control conditions leading to star formation is of paramount importance in cosmic biology. The rate of star formation is controlled by two factors: Too high a rate of star formation produces a destructive effect of UV radiation and destroys cosmic biology. Star formation as stated before produces water crucial for organism growth. Cosmic biology of

magnetotactic organisms and star formation are thus closely interlinked. Systems like solar systems do not arise in random condensation of blobs of interstellar gas. Only by a rigorous control of rotation of various parts of the system would galaxies and solar system evolved. The key to maintaining control over rotation seems to lie in the intergalactic magnetic field as indeed the whole phenomena of star formation. The intergalactic magnetic fields owes its origin to the lining up of magnetotactic porphyrin macroarrays/nanoarchaeal organisms and the cosmic biology of interstellar organisms can prosper only by maintaining a firm grip on the interstellar magnetic field and hence on the rate of star formation and type of star system produced. This points to a cosmic intelligence or brain capable of computation, analysis and exploration of the universe at large – of magnetotactic porphyrin macroarrays/nanoarchaeal organism networks. The origin of life on earth according to the Hoyle's hypothesis would be by seeding of porphyrin macroarrays/nanoarchaeal organism from the outer intergalactic space. The porphyrin organism can also be generated on actinidic surfaces in earth. Comets carrying porphyrin organisms would have interacted with the earth. A thin skin of graphitized material around a single porphyrin macroarrays/nanoarchaeal organism or clumps of organism can shield the interior from destruction by UV light. The sudden surge and diversification of species of plants and animals and their equally sudden extinction has seen from fossil records point to sporadic evolution produced by induction of fresh cometary genes with the arrival of each major new crop of comets. The porphyrin macroarrays organism can have a wave particle existence and bridge the world of bosons and fermions. The porphyrin macroarrays/nanoarchaeal organism can form biofilms and the porphyrin organism can form a molecular quantum computing cloud in the biofilm which forms an interstellar intelligence regulating the formation of star systems and galaxies. The porphyrin macroarrays/ nanoarchaeal organism quantal computing cloud can bridge the wave particle world functioning as the anthropic observer sensing gravity which orchestrates the reduction of the quantal world of

possibilities in to the macroscopic world. The actinide based porphyrin macroarrays/nanoarchaeal organism regulates the human system and biological universe[19-21].

Porphyrins also have evolutionary significance since porphyria is related to Scythian races and contributes to the behavioural and intellectual characteristics of this group of population. Porphyrins can intercalate into DNA and produce HERV expression. HERV RNA can get converted to DNA by reverse transcriptase which can get integrated into DNA by integrase. This tends to increase the length of the non coding region of the DNA. The increase in non coding region of the DNA is involved in primate and human evolution. Thus, increased rates of porphyrin synthesis would correlate with increase in non coding DNA length. The alteration in the length of the non coding region of the DNA contributes to the dynamic nature of the genome. Thus genetic and acquired porphyrias can lead to alteration in the non coding region of the genome. The alteration of the length of the non coding region of the DNA contributes to the racial and individual differences in populations. An increased length of non coding region as well as increased porphyrin synthesis leads to increased cognitive and creative neuronal function. Porphyrins are involved in quantal perception and regulation of the thalamo-cortico-thalamic pathway of conscious perception. Thus genetic and acquired porphyrias contribute to higher cognitive and creative capacity of certain races. Porphyrias are common among Eurasian Scythian races who have assumed leadership roles in communities and groups. Porphyrins have contributed to human and primate evolution[3, 4]. The increased porphyrin synthesis in the Scythian races contributes to higher level of extrasensory quantal perception in this racial group. This contributes to higher level of cognitive and spiritual function of the brain in this racial group.

Porphyrins can mediate conscious and quantal perception. The porphyrins can modulate the thalamo-cortico-thalamic pathway of conscious perception. Porphyrins can undergo autooxidation generating biophotons and a quantal state. Porphyrins can intercalate in the neuronal membrane producing sodium potassium ATPase inhibition and a paroxysmal depolarisation shift in neuronal membrane. This can generate a pumped phonon system mediated Frohlich model superconducting state in dipolar porphyrins inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. Porphyrins have a wave-particle existence and can bridge the boundary between the fermionic and bosonic world functioning as a quantal observer. This can create a Higgs field of Higgs Bosons which on interaction with subatomic electrons, protons and neutrons gives them mass and existence. Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Porphyrin microarrays can function as quantal computers storing information and can serve the purpose of extrasensory perception. Porphyrins can serve as a two way communicating bridge between digital information storage systems generating low level electromagnetic fields and human systems. The low level of EMF produced by digital system enhances porphyrin synthesis and serves the purpose of two way extrasensory perception and communication. The human porphyrin quantal computers can in turn by biophoton emission modulate digital information storage system. Dipolar porphyrin mediated Bose-Einstein condensate forms the basis of quantal and conscious perception and is the ubiquitous quantal observer mediating the boundary between fermionic and bosonic world.

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♦♦♦ Chapter 8 ♦♦♦

Endosymbiotic Actinidic Archaea and Viroids Mediated Model of Conscious/Quantal Perception and Regulation of Brain Function

Introduction

An endosymbiotic actinidic archaea and viroid mediated model of conscious and quantal perception is presented. Endomyocardial fibrosis (EMF) along with the root wilt disease of coconut is endemic to Kerala with its radioactive actinide beach sands. Actinides like rutile producing intracellular magnesium deficiency due to rutile-magnesium exchange sites in the cell membrane has been implicated in the etiology of EMF[1, 2]. Organisms like phytoplasmas and viroids have also been demonstrated to play a role in the etiology of these diseases[3, 4]. Actinidic archaea and viroids has been related to the pathogenesis of schizophrenia, autism and primary seizure disorder[2]. Actinidic archaea have a mevalonate pathway and cholesterol catabolism[5-8]. The role of endosymbiotic actinidic archaea and viroids in conscious and quantal perception as well as in regulation of brain function is discussed.

Materials and Methods

Informed consent of the subjects and the approval of the ethics committee were obtained for the study. The following groups were included in the study: – schizophrenia, autism and primary seizure disorder/primary generalized epilepsy. There were 10 patients in each group and each patient had an age and sex matched healthy control selected randomly from the general population. The blood samples were drawn in the fasting state before treatment was initiated. Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+rutile 0.1 mg/ml, (IV) same as II+ciprofloxacine and doxycycline each in a concentration of 1 mg/ml. Cholesterol substrate was prepared as described by Richmond[9]. Aliquots were withdrawn at zero time

immediately after mixing and after incubation at 37 ℃ for 1 hour. The following estimations were carried out: – Cytochrome F420, free RNA, free DNA, polycyclic aromatic hydrocarbon, hydrogen peroxide, dopamine, noradrenaline, serotonin, pyruvate, ammonia, glutamate, acetyl choline, hexokinase, HMG CoA reductase, digoxin and bile acids[10-13]. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). Polycyclic aromatic hydrocarbon was estimated by measuring hydrogen peroxide liberated by using glucose reagent. The statistical analysis was done by ANOVA.

Results

The parameters checked as indicated above were: – cytochrome F420, free RNA, free DNA, muramic acid, polycyclic aromatic hydrocarbon, hydrogen peroxide, serotonin, pyruvate, ammonia, glutamate, cytochrome C, hexokinase, ATP synthase, HMG CoA reductase, digoxin and bile acids. Plasma of control subjects showed increased levels of the above mentioned parameters with after incubation for 1 hour and addition of cholesterol substrate resulted in still further significant increase in these parameters. The plasma of patients showed similar results but the extent of increase was more. The addition of antibiotics to the control plasma caused a decrease in all the parameters while addition of rutile increased their levels. The addition of antibiotics to the patient's plasma caused a decrease in all the parameters while addition of rutile increased their levels but the extent of change was more in patient's sera as compared to controls. The results are expressed in tables 1-8 as percentage change in the parameters after 1 hour incubation as compared to the values at zero time.

Table 1 *Effect of rutile and antibiotics on cytochrome F 420 and noradrenaline.*

Group	CYT F420 % (Increase with Rutile)		CYT F420 % (Decrease with Doxy)		Noradrenaline % (Increase with Rutile)		Noradrenaline % (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**
Normal	4.48	0.15	18.24	0.66	4.43	0.19	18.13	0.63
Schizo	23.24	2.01	58.72	7.08	22.50	1.66	60.21	7.42
Seizure	23.46	1.87	59.27	8.86	23.81	1.19	61.08	7.38
Autism	21.68	1.90	57.93	9.64	23.52	1.49	63.24	7.36
F value	306.749		130.054		380.721		171.228	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 2 *Effect of rutile and antibiotics on dopamine and Serotonin.*

Group	DOPAMINE % change (Increase with Rutile)		DOPAMINE % change (Decrease with Doxy)		Serotonin % change (Increase with Rutile)		Serotonin % change (Decrease with Doxy+Cipro)	
	Mean	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**
Normal	4.41	0.15	18.63	0.12	4.34	0.15	18.24	0.37
Schizo	21.88	1.19	66.28	3.60	23.02	1.65	67.61	2.77
Seizure	22.29	1.33	65.38	3.62	22.13	2.14	66.26	3.93
Autism	22.76	2.20	67.63	3.52	22.79	2.20	64.26	6.02
F value	403.394		680.284		348.867		364.999	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 3 *Effect of rutile and antibiotics on free DNA and RNA.*

Group	DNA % change (Increase with Rutile)		DNA % change (Decrease with Doxy)		RNA % change (Increase with Rutile)		RNA % change (Decrease with Doxy)	
	Mean	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**
Normal	4.37	0.15	18.39	0.38	4.37	0.13	18.38	0.48
Schizo	23.28	1.70	61.41	3.36	23.59	1.83	65.69	3.94
Seizure	23.40	1.51	63.68	4.66	23.08	1.87	65.09	3.48
Autism	22.12	2.44	63.69	5.14	23.33	1.35	66.83	3.27
F value	337.577		356.621		427.828		654.453	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 4 *Effect of rutile and antibiotics on HMG CoA reductase and PAH.*

Group	HMG CoA R % change (Increase with Rutile)		HMG CoA R % change (Decrease with Doxy)		PAH % change (Increase with Rutile)		PAH % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.30	0.20	18.35	0.35	4.45	0.14	18.25	0.72
Schizo	22.91	1.92	61.63	6.79	23.01	1.69	59.49	4.30
Seizure	23.09	1.69	61.62	8.69	22.67	2.29	57.69	5.29
Autism	22.72	1.89	64.51	5.73	22.61	1.42	64.48	6.90
F value	319.332		199.553		391.318		257.996	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 5 *Effect of rutile and antibiotics on digoxin and bile acids.*

Group	Digoxin (ng/ml) (Increase with Rutile)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)		Bile acids % change (Increase with Rutile)		Bile acids % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	0.11	0.00	0.054	0.003	4.29	0.18	18.15	0.58
Schizo	0.55	0.06	0.219	0.043	23.20	1.87	57.04	4.27
Seizure	0.51	0.05	0.199	0.027	22.61	2.22	66.62	4.99
Autism	0.53	0.08	0.205	0.041	22.21	2.04	63.84	6.16
F value	135.116		71.706		290.441		203.651	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 6 *Effect of rutile and antibiotics on pyruvate and hexokinase.*

Group	Pyruvate % change (Increase with Rutile)		Pyruvate % change (Decrease with Doxy)		Hexokinase % change (Increase with Rutile)		Hexokinase % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.34	0.21	18.43	0.82	4.21	0.16	18.56	0.76
Schizo	20.99	1.46	61.23	9.73	23.01	2.61	65.87	5.27
Seizure	20.94	1.54	62.76	8.52	23.33	1.79	62.50	5.56
Autism	21.91	1.71	58.45	6.66	22.88	1.87	65.45	5.08
F value	321.255		115.242		292.065		317.966	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 7 *Effect of rutile and antibiotics on hydrogen peroxide and acetyl choline.*

Group	H_2O_2 % (Increase with Rutile)		H_2O_2 % (Decrease with Doxy)		Acetyl Choline% (Increase with Rutile)		Acetyl Choline % (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.43	0.19	18.13	0.63	4.40	0.10	18.48	0.39
Schizo	22.50	1.66	60.21	7.42	22.52	1.90	66.39	4.20
Seizure	23.81	1.19	61.08	7.38	22.83	1.90	67.23	3.45
Autism	23.52	1.49	63.24	7.36	23.20	1.57	66.65	4.26
F value	380.721		171.228		372.716		556.411	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 8 *Effect of rutile and antibiotics on glutamate and ammonia.*

Group	Glutamate % (Increase with Rutile)		Glutamate % (Decrease with Doxy)		Ammonia % (Increase with Rutile)		Ammonia % (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.34	0.21	18.43	0.82	4.40	0.10	18.48	0.39
Schizo	20.99	1.46	61.23	9.73	22.52	1.90	66.39	4.20
Seizure	20.94	1.54	62.76	8.52	22.83	1.90	67.23	3.45
Autism	21.91	1.71	58.45	6.66	23.20	1.57	66.65	4.26
F value	321.255		115.242		372.716		556.411	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Discussion

There was increase in cytochrome F420 indicating archaeal growth. The archaea can synthesize and use cholesterol as a carbon and energy source[14, 15]. The archaeal origin of the enzyme activities was indicated by antibiotic induced suppression. The study indicates the presence of actinide based archaea with an alternate actinide based enzymes or metalloenzymes in the system as indicated by rutile induced increase in enzyme activities[16]. There was also an increase in archaeal HMG CoA reductase activity indicating increased cholesterol synthesis by the archaeal mevalonate pathway. The archaeal beta hydroxyl steroid dehydrogenase activity indicating digoxin synthesis and archaeal cholesterol

hydroxylase activity indicating bile acid synthesis were increased[7]. The archaeal cholesterol oxidase activity was increased resulting in generation of pyruvate and hydrogen peroxide[15]. The pyruvate gets converted to glutamate and ammonia by the GABA shunt pathway. The pyruvate can get converted to acetyl CoA and acetyl choline. The archaeal aromatization of cholesterol generating PAH, serotonin and dopamine was also detected[17]. The archaeal glycolytic hexokinase activity and archaeal extracellular ATP synthase activity were increased. The archaea can undergo magnetite and calcium carbonate mineralization and can exist as calcified nanoforms[18].

The endosymbiotic actinidic archaea and viroids have got axonal and transynaptic transport functioning as biological neurotransmitters. The human brain can be compared to a well organised modified archaeal biofilm with archaeal derived viroids serving as messengers. There was an increase in free RNA indicating self replicating RNA viroids and free DNA indicating generation of viroid complementary DNA strands by archaeal reverse transcriptase activity. The actinides modulate RNA folding and catalyse its ribozymal action. Digoxin can cut and paste the viroidal strands by modulating RNA splicing generating RNA viroidal diversity. The viroids are evolutionarily escaped archaeal group I introns which have retrotransposition and self splicing qualities[19]. Archaeal pyruvate can produce histone deacetylase inhibition resulting in endogenous retroviral (HERV) reverse transcriptase and integrase expression. This can integrate the RNA viroidal complementary DNA into the noncoding region of eukaryotic non coding DNA using HERV integrase as has been described for borna and ebola viruses[20]. The noncoding DNA is lengthened by integrating RNA viroidal complementary DNA with the integration going on as a continuing event. The archaea genome can also get integrated into human genome using integrase as has been described for trypanosomes[21]. The integrated viroids and archaea can undergo vertical transmission and can exist as genomic parasites[20, 21]. This

increases the length and alters the grammar of the noncoding region producing memes or memory of acquired characters[22]. The viroidal complementary DNA can function as jumping genes producing a dynamic genome important in storage of synaptic information, HLA gene expression and neurodevelopmental gene expression. The alteration in DNA sequences produced by viroidal complementary DNA jumping genes can lead onto schizophrenia, autism and primary seizure disorder. The RNA viroids can regulate mRNA function by RNA interference[19]. The phenomena of RNA interference can modulate T cell and B cell function, neuronal transmission and euchromatin/ heterochromatin expression. The RNA viroid induced mRNA interference can modulate dopaminergic, glutamatergic and serotoninergic synaptic transmission contributing to the pathogenesis of schizophrenia, autism and primary seizure disorder.

Pollution is induced by the primitive nanoarchaea synthesized PAH and methane leading on to redox stress. Redox stress leads to sodium potassium ATPase inhibition, inward movement of plasma membrane cholesterol, defective SREBP sensing, increased cholesterol synthesis and nanoarchaeal/mevalonate pathway bacterial growth[28]. Redox stress leads on to viroidal and archaeal multiplication. Redox stress can also lead to HERV reverse transcriptase and integrase expression. The noncoding DNA is formed of integrating RNA viroidal complementary DNA and archaea with the integration going on as a continuing event. The archaeal pox like dsDNA virus forms evolutionarily the nucleus. The integrated viroidal and archaeal sequences can undergo vertical transmission and can exist as genomic parasites. Bacteria and viruses have been related to the pathogenesis of schizophrenia, autism and primary seizure disorder[23-31].

The change in the length and grammar of the noncoding region produces eukaryotic speciation and individuality[32]. It is the increase in non coding region and HERV sequences of the genome that led to the evolution of the primate and

the human brain and its attendant property of conscious and quantal perception. It is the noncoding region of the genome with its archaeal, RNA viroidal complementary DNA and HERV sequences that makes for the human qualities of the hominid brain. Changes in the length of noncoding region can lead onto disorders of consciousness like schizophrenia[33]. A schizophrenia specific human endogenous retroviruses and change in the length and grammar of the noncoding region has been described in schizophrenia. The integration of nanoarchaea and viroids in to the eukaryotic and human genome produces a chimera which can multiply producing biofilm like multicellular structures having a mixed archaeal, viroidal and eukaryotic characters which is a regression from the multicellular eukaryotic tissue. This results in a new neuronal, metabolic, immune and tissue phenotype leading to human diseases like schizophrenia, autism and primary seizure disorder. The microchimeras formed can lead to polyploidy. Neuronal polyploidy and microchimeras have been described in schizophrenia and autism.

The archaea and viroids can regulate the nervous system including the NMDA/GABA thalamo-cortico-thalamic pathway mediating conscious perception[2, 34]. NMDA/GABA receptors can be modulated by digoxin induced calcium oscillations resulting in NMDA/ glutamic acid decarboxylase (GAD) activity induction, PAH increasing NMDA activity and inducing GAD as well as viroid induced RNA interference modulating NMDA/GABA receptors[2]. The cholesterol ring oxidase generated pyruvate can be converted by the GABA shunt pathway to glutamate and GABA. Increased NMDA transmission has been described in schizophrenia, autism and primary seizure disorder. The dipolar PAH and archaeal magnetite in the setting of digoxin induced sodium potassium ATPase inhibition can produce a pumped phonon system mediated Frohlich model superconducting state inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world[2, 34]. The quantal perception mediated by actinidic archaea

and viroids gives rise to the phenomena of the collective unconscious. This can mediate extrasensory perceptive phenomena in humans. Schizophrenia and autism are described as a disorder of consciousness and increased integration of archaea and viroids into the genome can contribute to its neuropathogenesis. The archaea can regulate limbic lobe transmission with archaeal cholesterol aromatase/ring oxidase generated norepinephrine, dopamine, serotonin and acetyl choline[17]. The archaea can thus regulate the sympathetic and parasympathetic system regulating visceral function. Increased dopaminergic and serotoninergic transmission is important in the pathogenesis of schizophrenia and autism. The higher degree of integration of the archaea into the genome produces increased digoxin synthesis producing right hemispheric dominance and lesser degree producing left hemispheric dominance[2]. Right hemispheric dominance has been described in schizophrenia, autism and primary seizure disorder. The increased integration of archaea into the neuronal genome can produce increased cholesterol oxidase and aromatase mediated monoamine and NMDA transmission producing schizophrenia, autism and primary seizure disorder.

The archaeal bile acids are chemically diverse and structurally different from human bile acids. The archaeal bile acids can bind olfactory GPCR receptors and stimulate the limbic lobe producing a sense of social identity. The dominance of archaeal bile acids over human bile acids in stimulating the olfactory GPCR – limbic lobe pathway leads to loss of social identity and schizophrenia/autism[35]. The archaeal bile acids are important as modulators of the limbic lobe and gives social, group and racial identity to humans.

Archaea and RNA viroid can bind the TLR receptor induce NFKB producing immune activation and cytokine TNF alpha secretion. The archaeal DXP and mevalonate pathway metabolites can bind γδ TCR and digoxin induced calcium signalling can activate NFKB producing chronic immune activation[2, 36]. The

archaea and viroid induced chronic immune activation and generation of superantigens can lead on to autoimmune disease. Immune activation and autoimmunity is important in the pathogenesis of schizophrenia, autism and primary seizure disorder. Autoantibodies have been described in schizophrenia, autism and primary seizure disorder.

Archaea, viroids and digoxin can induce the host AKT PI3K, AMPK, HIF alpha and NFKB producing the Warburg metabolic phenotype[37]. The increased glycolytic hexokinase activity, decrease in blood ATP, leakage of cytochrome C, increase in serum pyruvate and decrease in acetyl CoA indicates the generation of the Warburg phenotype. There is induction of glycolysis, inhibition of PDH activity and mitochondrial dysfunction resulting in inefficient energetics. Mitochondrial dysfunction can lead onto NMDA excitotoxicity and cell death important in schizophrenia and primary seizure disorder. Cholesterol oxidase activity, increased glycolysis related NADPH oxidase activity and mitochondrial dysfunction generates free radicals important in the pathogenesis of schizophrenia, autism and primary seizure disorder. The accumulated pyruvate enters the GABA shunt pathway and is converted to citrate which is acted upon by citrate lyase and converted to acetyl CoA, used for cholesterol synthesis[37]. The pyruvate can be converted to glutamate and ammonia which is oxidised by archaea for energy needs. The increased cholesterol substrate leads to increased archaeal growth and digoxin synthesis leading to metabolic channeling to the mevalonate pathway. Hyperdigoxinemia is important in the pathogenesis of schizophrenia, autism and primary seizure disorder[2].

The Warburg phenotype can contribute to the pathogenesis of schizophrenia by augmenting the bacterial shikimic acid pathway. The upregulated glycolysis consequent to the Warburg phenotype produces phosphoenolpyruvate, a basic substrate for the bacterial shikimic acid pathway which can synthesise

monoamines and neuroactive alkaloids. The shikimic acid pathway can generate dopamine and serotonin producing the increased monoaminergic transmission in schizophrenia. The shikimic acid pathway can also synthesize the neuroactive alkaloids strychnine, nicotine, morphine, mescaline and LSD important in the pathogenesis of schizophrenia and autism. Endogenous neuroactive alkaloids have been described in schizophrenia, autism and primary seizure disorder by several workers[2]. The upregulated glycolysis can also contribute to increased NMDA and GABA transmission in the thalamo-cortico-thalamic pathway. The glycolytic pathway produces phosphoglycerate which is converted to phosphoserine and then serine which activates the NMDA receptor. The glycolytic enzyme glyceraldehyde-3-phosphate dehydrogenase is a GABA receptor kinase and activates GABA transmission. Thus the archaea and viroid induced Warburg phenotype can contribute to the pathogenesis of schizophrenia, autism and primary seizure disorder. The archaeal cholesterol catabolism can deplete the cell membranes of cholesterol resulting in alteration in lipid microdomains and their related neurotransmitter receptor contributing to the altered NMDA, serotoninergic and dopaminergic transmission in schizophrenia, autism and primary seizure disorder.

Thus the actinidic archaea and viroids can regulate brain function. The actinidic archaea and viroids can modulate multiple neurotransmitter systems – monoaminergic, glutamatergic, GABAergic and cholinergic. An actinidic archaea and viroid mediated model of conscious and quantal perception is postulated. The actinidic archaea and viroids also play a role in the genesis of hemispheric dominance. It is dysfunction of the archaea and viroidal mediated regulatory mechanisms of brain function and consciousness that leads to schizophrenia and autism.

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♦♦♦ Chapter 9 ♦♦♦

Evidence for Out of Oceania Origin of Homo Neanderthalis from the Lemurian Supercontinent in the Indian Ocean

Introduction

Actinidic beach sands have been postulated to play a pivotal role in abiogenesis. Chronic calcific pancreatitis (CCP), endomyocardial fibrosis (EMF), multinodular goitre (MNG) and mucoid angiopathy along with the root wilt disease of coconut is endemic to Kerala with its radioactive actinide beach sands. The Actinides like rutile producing intracellular magnesium deficiency due to actinide-magnesium exchange sites in the cell membrane has been implicated in the etiology of EMF[1, 2, 3]. Endogenous digoxin, a steroidal glycoside which functions as a membrane sodium-potassium ATPase inhibitor has also been related to its etiology of EMF, CCP, MNG and mucoid angiopathy[4]. Digoxin produces intracellular magnesium deficiency which results in acidic mucopolysaccharide accumulation of the vascular, cardiac and endocrine tissues contributing to the pathogenesis. Organisms like phytoplasmas and viroids have also been demonstrated to play a role in the etiology of root wilt disease of coconut which is co-endemic in Kerala[5, 6]. The possibility of endogenous digoxin synthesis by actinide based primitive organism like archaea with a mevalonate pathway and cholesterol catabolism was considered[7, 8, 9]. The role of RNA viroids in the etiopathogenesis of EMF, CCP, MNG and mucoid angiopathy was also explored. Davies has put forward the concept of a shadow biosphere of organisms with alternate biochemistry present in earth itself[10]. An actinide dependent shadow biosphere of archaea and viroids in the above mentioned disease states is described[7].

The group of diseases are seen in particular geographic areas of the world near the equator – South India, South America, South Africa and Australia[1, 2, 3]. These geographic areas are rich in placer deposits containing monazite, illmenite, rutile and thorium. These areas peninsular India, Africa, Australia, south America and

Antartica formed part of one single pre-historic continent in Southern ocean and Indian ocean called Lemuria by geologists. The evolution of primates and homo sapiens occurred in the rift valley of Africa part of this pre-historic continent. Metal actinides in beach sands have been postulated to play a role in abiogenesis. Actinide mineral like rutile, monazite and illmenite by surface metabolism would have contributed to abiogenesis. A hypothesis of cholesterol as the primal prebiotic molecule synthesised on actinide surfaces with all other biomolecules arising from it and a self replicating cholesterol lipid organism as the initial life form is presented. Actinide dependent organism would have contributed to primate and human evolution. It is also possible that actinidic organisms would also have contributed to the destruction of the Lemurian supercontinent. This paper postulates that the co-existence of EMF, CCP and MNG in the above mentioned geographic areas points to the possibility of these land masses being joined together has one single land mass – Lemuria.

The postulated Lemurian part of the Indian sub-continent in South India is inhabited by the dominant Nair community which has a high incidence of EMF, CCP and MNG. The dominant Nair community also has a high incidence of autism. Neanderthal anthropometric features have been described in autism. Neanderthal metabolonomics have also been described in autism. The same anthropometric features are seen in EMF, CCP and MNG. It is possible that homo neanderthalis would have originated in the super continent which occupied the southern ocean. The island of Sumatra is home to another human species homo floresiensis which lived along with homo neanderthalis. This suggests an oceanic origin of homo neanderthalis in the supercontinent in the southern ocean. Recurrent Tsunamis would have forced the migration of homo neanderthalis to the Eurasian land mass especially to Harappa, Sumeria, Etruscia, Egypt and Basque country. There is a high incidence of Neanderthal genes in the Basque population. The language spoken in Harappa, Sumeria,

Etruscia, Egypt and Basque country had a Dravidian sub-stratum. The population in these areas are matrilineal and female dominant. This suggests an out of oceania hypothesis for the origin of homo neanderthalis.

Materials and Methods

Informed consent of the subjects and the approval of the ethics committee were obtained for the study. The following groups were included in the study: – endomyocardial fibrosis, chronic calcific pancreatitis, multinodular goitre and mucoid angiopathy. There were 10 patients in each group and each patient had an age and sex matched healthy control selected randomly from the general population. The blood samples were drawn in the fasting state before treatment was initiated. Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+rutile 0.1 mg/ml, (IV) same as II+ciprofloxacine and doxycycline each in a concentration of 1 mg/ml. Cholesterol substrate was prepared as described by Richmond[11]. Aliquots were withdrawn at zero time immediately after mixing and after incubation at 37 ℃ for 1 hour. The following estimations were carried out: – Cytochrome F420, free RNA, free DNA, muramic acid, polycyclic aromatic hydrocarbon, hydrogen peroxide, serotonin, pyruvate, ammonia, glutamate, cytochrome C, hexokinase, ATP synthase, HMG CoA redutase, digoxin and urease[12, 13, 14, 15]. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). Polycyclic aromatic hydrocarbon was estimated by measuring hydrogen peroxide liberated by using glucose reagent. The statistical analysis was done by ANOVA.

Neanderthal anthropometric features were evaluated in the Nair community and in EMF, CCP, MNG and autism.

Results

The parameters checked as indicated above were: – cytochrome F420, free RNA, free DNA, muramic acid, polycyclic aromatic hydrocarbon, hydrogen peroxide, serotonin, pyruvate, ammonia, glutamate, cytochrome C, hexokinase, ATP synthase, HMG CoA reductase, digoxin and urease. Plasma of control subjects showed increased levels of the above mentioned parameters with after incubation for 1 hour and addition of cholesterol substrate resulted in still further significant increase in these parameters. The plasma of patients showed similar results but the extent of increase was more. The addition of antibiotics to the control plasma caused a decrease in all the parameters while addition of rutile increased their levels. The addition of antibiotics to the patient's plasma caused a decrease in all the parameters while addition of rutile increased their levels but the extent of change was more in patient's sera as compared to controls. The results are expressed in tables 1-7 as percentage change in the parameters after 1 hour incubation as compared to the values at zero time.

The Nair community had a high prevalence of Neanderthal anthropometric features. Neanderthal anthropometric features were also dominant in autism, EMF, CCP and MNG.

Table 1 *Effect of rutile and antibiotics on muramic acid and serotonin.*

Group	Muramic acid % (Increase without Doxy)		Muramic acid % (Decrease with Doxy)		5 HT % (Increase without Doxy)		5 HT % (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.41	0.15	18.63	0.12	4.34	0.15	18.24	0.37
Muc Angio	24.43	0.81	68.72	2.77	24.32	1.09	65.80	5.14
EMF	22.28	1.52	64.05	2.79	22.82	1.56	64.61	4.95
CCP	23.07	1.46	64.68	3.86	22.89	1.50	64.19	6.51
MNG	23.85	1.69	66.43	3.17	22.72	1.64	63.91	4.93
F value	403.394		680.284		348.867		364.999	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 2 *Effect of rutile and antibiotics on free DNA and RNA.*

Group	DNA % change (Increase with Rutile)		DNA % change (Decrease with Doxy)		RNA % change (Increase with Rutile)		RNA % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.37	0.15	18.39	0.38	4.37	0.13	18.38	0.48
Muc Angio	22.27	1.49	63.99	4.03	22.27	1.49	69.25	2.33
EMF	22.29	2.05	58.70	7.34	22.29	2.05	67.03	5.97
CCP	21.19	2.18	61.63	7.68	21.19	2.18	62.99	5.47
MNG	22.93	2.08	63.49	5.01	23.19	1.74	65.68	4.06
F value	337.577		356.621		427.828		654.453	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 3 *Effect of rutile and antibiotics on HMG CoA reductase and PAH.*

Group	HMG CoA R % change (Increase with Rutile)		HMG CoA R % change (Decrease with Doxy)		PAH % change (Increase with Rutile)		PAH % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.30	0.20	18.35	0.35	4.45	0.14	18.25	0.72
Muc Angio	24.44	0.90	59.90	4.74	23.90	1.36	63.29	6.86
EMF	22.92	1.48	61.91	7.56	23.73	1.38	65.20	6.20
CCP	23.27	1.96	63.09	9.21	22.85	1.71	66.14	3.58
MNG	23.65	1.88	64.78	6.62	23.79	1.19	64.24	3.96
F value	319.332		199.553		391.318		257.996	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 4 *Effect of rutile and antibiotics on digoxin and urease.*

Group	Digoxin (ng/ml) (Increase with Rutile)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)		Urease % change (Increase with Rutile)		Urease % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	0.11	0.00	0.054	0.003	4.29	0.18	18.15	0.58
Muc Angio	0.53	0.03	0.224	0.041	23.37	1.55	63.99	4.03
EMF	0.51	0.05	0.213	0.033	23.41	1.41	58.70	7.34
CCP	0.47	0.05	0.212	0.028	22.44	2.00	61.63	7.68
MNG	0.51	0.06	0.227	0.040	22.15	1.79	65.49	7.28
F value	135.116		71.706		290.441		203.651	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 5 *Effect of rutile and antibiotics on pyruvate and hexokinase.*

Group	Pyruvate % change (Increase with Rutile)		Pyruvate % change (Decrease with Doxy)		Hexokinase % change (Increase with Rutile)		Hexokinase % change (Decrease with Doxy)	
	Mean	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**
Normal	4.34	0.21	18.43	0.82	4.21	0.16	18.56	0.76
Muc Angio	22.27	1.49	61.94	5.49	23.67	1.65	69.25	2.33
EMF	22.29	2.05	62.37	5.05	21.66	1.94	67.03	5.97
CCP	21.19	2.18	54.82	8.70	22.27	2.18	62.99	5.47
MNG	19.73	2.27	59.36	7.53	22.51	2.32	62.70	3.24
F value	321.255		115.242		292.065		317.966	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 6 *Effect of rutile and antibiotics on hydrogen peroxide and delta amino levulinic acid.*

Group	H_2O_2 % (Increase with Rutile)		H_2O_2 % (Decrease with Doxy)		ALA % (Increase with Rutile)		ALA % (Decrease with Doxy)	
	Mean	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**
Normal	4.43	0.19	18.13	0.63	4.40	0.10	18.48	0.39
Muc Angio	23.64	1.50	60.44	6.83	22.27	1.49	59.90	4.74
EMF	23.29	1.67	60.52	5.38	22.29	2.05	61.91	7.56
CCP	23.38	1.79	57.37	7.45	21.19	2.18	63.09	9.21
MNG	22.00	1.77	61.39	7.47	22.71	1.82	66.13	3.83
F value	380.721		171.228		372.716		556.411	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 7 *Effect of rutile and antibiotics on ATP synthase and cytochrome F 420.*

Group	ATP synthase % (Increase with Rutile)		ATP synthase % (Decrease with Doxy)		CYT F420 % (Increase with Rutile)		CYT F420 % (Decrease with Doxy)	
	Mean	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**	**Mean**	**± SD**
Normal	4.40	0.11	18.78	0.11	4.48	0.15	18.24	0.66
Muc Angio	23.45	1.52	67.05	4.84	23.72	1.76	58.92	5.46
EMF	23.37	1.31	63.97	3.62	22.70	1.87	60.46	8.06
CCP	22.53	1.92	66.31	3.10	21.31	1.37	57.32	8.41
MNG	23.39	1.14	68.11	3.02	22.17	2.01	65.15	6.46
F value	449.503		673.081		306.749		130.054	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Abbreviations

Muc Angio: Mucoid angiopathy

EMF: Endomyocardial fibrosis

CCP: Chronic calcific pancreatitis

MNG: Multinodular goiter

Table 8 *Incidence of autism in nair, autistic and non nair population.*

Groups	Autism	Percentage
Nair	68 cases	68
Non-nair	32 cases	32
Total	100	

Table 9 *Anthropometric features in nair, autistic and non nair population.*

Groups	Neanderthal Anthropometric	Total cases	Percentage
Nair	72 cases	100	72
Non-nair	21 cases	100	21
Autism	81 cases	100	81

Table 10 *Anthropometric features in EMF, CCP and MNG.*

Groups	Neanderthal Anthropometric	Total cases	Percentage
EMF	8 cases	10	80
CCP	6 cases	10	60
MNG	7 cases	10	70

Table 11 *Incidence of EMF, CCP and MNG community-wise.*

Groups	Cases	Percentage
EMF	8/10 cases	80
CCP	7/10 cases	70
MNG	9/10 cases	90

(Nair population is 7% of Kerala population)

Discussion

Neanderthal anthropometric features were seen in autism, EMF, CCP and MNG which were more common in Nair community dominating the part of the Indian subcontinent derived from Lemuria. This suggests a Lemurian supercontinent origin of the homo neanderthalis. The homo neanderthalis shared the Lemurian super continent with another human species called homo floresiensis. Homo floresiensis has been detected in the island of Sumatra in Indonesia. The Nair community dominates the Kerala coast of South India. The Nair community is matrilineal and Dravidian. There are other civilisations speaking the Dravidian language important in human evolution like Harappa, Sumeria, Etruscia, Egypt and Basque country. These civilisations may have a Neanderthal substratum. They would have migrated to the Eurasian land mass from the Lemurian supercontinent when it was destroyed by Tsunamis in the Indian ocean. The Tsunamis would have evolved due to archaeal overgrowth in the southern ocean during the ice age. The archaea are extremophiles. The archaeal overgrowth in the Indian ocean bed in the ice age would have released methane. This would have triggered movement of the earth crust, earthquakes and Tsunamis. The same endosymbiotic archaeal growth would have led to evolution of homo neanderthalis. The endosymbiotic archaeal metabolism in primates would have generated the species homo neanderthalis. The homo neanderthalis contributed to the civilisations of Harappa, Sumeria, Etruscia, Egypt, basque and celts. They were all matrilineal with gender equality. They had a symbolic language predominantly non-vocal. Music, dance and painting as a form of communication was prevalent in these societies. This is exemplified by the Harappan language dominated by Harappan seals and the Egyptian hieroglyphics The concept of spirituality evolved in these societies including the worship of the mother goddess.

There was increase in cytochrome F420 indicating archaeal growth in endomyocardial fibrosis, chronic calcific pancreatitis, multinodular goitre and mucoid angiopathy. The archaea can synthesise and use cholesterol as a carbon and energy source[16, 17]. The archaeal origin of the enzyme activities was indicated by antibiotic induced suppression. The study indicates the presence of actinide based archaea with an alternate actinide based enzymes or metalloenzymes in the system as indicated by rutile induced increase in enzyme activities[18]. There was also an increase in archaeal HMG CoA reductase activity indicating increased cholesterol synthesis by the archaeal mevalonate pathway. The archaeal beta hydroxyl steroid dehydrogenase activity indicating digoxin synthesis and archaeal cholesterol hydroxylase activity indicating bile acid synthesis were increased[8]. The archaeal cholesterol oxidase activity was increased resulting in generation of pyruvate and hydrogen peroxide[17]. The pyruvate gets converted to glutamate and ammonia by the GABA shunt pathway. The archaeal aromatization of cholesterol generating PAH, serotonin and dopamine was also detected[19]. The archaeal glycolytic hexokinase activity and archaeal extracellular ATP synthase activity were increased. There was an increase in free RNA indicating self replicating RNA viroids and free DNA indicating generation of viroid complementary DNA strands by archaeal reverse transcriptase activity. The actinides modulate RNA folding and catalyse its ribozymal action. Digoxin can cut and paste the viroidal strands by modulating RNA splicing generating RNA viroidal diversity. The viroids are evolutionarily escaped archaeal group I introns which have retrotransposition and self splicing qualities[20]. Archaeal pyruvate can produce histone deacetylase inhibition resulting in endogenous retroviral (HERV) reverse transcriptase and integrase expression. This can integrate the RNA viroidal complementary DNA into the noncoding region of eukaryotic non coding DNA using HERV integrase as has been described for borna and ebola viruses[21]. The noncoding DNA is lengthened by integrating RNA viroidal complementary DNA with the

integration going on as a continuing event. The archaea genome can also get integrated into human genome using integrase as has been described for trypanosomes[22]. The integrated viroids and archaea can undergo vertical transmission and can exist as genomic parasites[21, 22]. This increases the length and alters the grammar of the noncoding region producing memes or memory of acquired characters[23]. The viroidal complementary DNA can function as jumping genes producing a dynamic genome and changing DNA sequences. The RNA viroids can regulate mrna function by RNA interference[20]. The phenomena of RNA interference can modulate euchromatin/heterochromatin expression. RNA viroidal mRNA interference plays a role in the pathogenesis of endomyocardial fibrosis, chronic calcific pancreatitis, multinodular goitre and mucoid angiopathy. The viroidal RNA modulation of T cell and B cell function by mRNA interference can lead to immune activation. Monocytic infiltration of the vascular wall, cardiac and endocrine tissue can produce reactive connective tissue macromolecular deposition contributing to EMF, CCP, MNG and mucoid angiopathy. The viroidal RNA mediated mRNA interference can also inhibit insulin signalling and secretion leading onto CCP. The viroid RNA can inhibit thyroid hormone secretion and action by mRNA interference leading to increased TSH secretion and multinodular goitre.

The presence of muramic acid, HMG CoA reductase and cholesterol oxidase activity inhibited by antibiotics indicates the presence of bacteria with mevalonate pathway. The bacterial with mevalonate pathway include streptococcus, staphylococcus, actinomycetes, listeria, coxiella and borrelia[24]. The bacteria and archaea with mevalonate pathway and cholesterol catabolism had a evolutionarily advantage and constitutes the isoprenoidal clade organism with the archaea evolving into mevalonate pathway gram positive and gram negative organism through horizontal gene transfer of viroidal and virus genes[25]. The isoprenoidal clade prokaryotes develop into other groups of prokaryotes via viroidal/virus as

well as eukaryotic horizontal gene transfer producing bacterial speciation[26]. The RNA viroids and its complementary DNA developed into cholesterol enveloped RNA and DNA viruses like herpes, retrovirus, influenza virus, borna virus, cytomegalo virus and Ebstein Barr virus by recombining with eukaryotic and human genes resulting in viral speciation. Bacterial and viral species are ill defined and fuzzy with all of them forming one common genetic pool with frequent horizontal gene transfer and recombination. Thus the multi and unicellular eukaryote with its genes serves the purpose of prokaryotic and viral speciation. The multicellular eukaryote developed so that their endosymbiotic archaeal colonies could survive and forage better. The multicellular eukaryotes are like bacterial biofilms. The archaea and bacteria with a mevalonate pathway uses the extracellular RNA viroids and DNA viroids for quorum sensing and in the generation of symbiotic biofilm like structures which develop into multicellular eukaryotes[27, 28]. The endosymbiotic archaea and bacteria with mevalonate pathway still uses the RNA viroids and DNA viroids for the regulation of muticellular eukaryote. Pollution is induced by the primitive nanoarchaea and mevalonate pathway bacteria synthesised PAH and methane leading on to redox stress. Redox stress leads to sodium potassium ATPase inhibition, inward movement of plasma membrane cholesterol, defective SREBP sensing, increased cholesterol synthesis and nanoarchaeal/mevalonate pathway bacterial growth[29]. Redox stress leads on to viroidal and archaeal multiplication. Redox stress can also lead to HERV reverse transcriptase and integrase expression. The noncoding DNA is formed of integrating RNA viroidal complementary DNA and archaea with the integration going on as a continuing event. The change in the length and grammar of the noncoding region produces eukaryotic speciation and individuality[30]. Thus actinidic nanoarchaea would have contributed to the evolution of the multicellular eukaryote, primates and humans. Changes in the length of noncoding region especially due to integration of viroid complementary DNA and archaea and the resulting jumping genes leads to new

DNA sequences possibly contributing to EMF, CCP, MNG and mucoid angiopathy[31]. The integrated viroidal, archaeal and mevalonate pathway bacterial sequences can undergo vertical transmission and can exist as genomic parasites. The genomic integrated archaea, mevalonate pathway bacteria and viroids form a genomic reserve of bacteria and viruses which can recombine with human and eukaryotic genes producing bacterial and viral speciation. Archaea and mevalonate pathway bacteria can lead onto EMF, CCP, MNG and mucoid angiopathy. The persistent symbiosis leads to reparative connective tissue macromolecular deposition of acidic mucopolysaccharides, glycoproteins, collagen and elastin leading to fibrotic changes in the heart, vessel wall, thyroid and pancreas contributing to EMF, CCP, MNG and mucoid angiopathy[4, 32]. The integration of nanoarchaea, mevalonate pathway prokaryotes and viroids in to the eukaryotic and human genome produces a chimera which can multiply producing biofilm like multicellular structures having a mixed archaeal, viroidal, prokaryotic and eukaryotic characters which is a regression from the multicellular eukaryotic tissue. This results in a new metabolic and immune phenotype or microchimeras leading on to human diseases like EMF, CCP, MNG and mucoid angiopathy with a predilection to develop malignancy. Microchimeras can lead to cellular polyploidy important in malignant transformation and induction of carcinoma of thyroid and pancreas. The growth of archaea in the vascular, cardiac and endocrine tissues can result in calcification. The archaea can form calcified nanoarchaeal structures which can exist as colonies in slime. The archaea can undergo magnetite and calcium carbonate mineralization and can exist as calcified nanoforms[33]. The calcified nanoarchaea can contribute to the tissue calcification noted in CCP, MNG and mucoid angiopathy.

Archaea and RNA viroid can bind the TLR receptor induce NFKB producing immune activation and cytokine TNF alpha secretion. The archaeal DXP and mevalonate pathway metabolites can bind γδ TCR and digoxin induced calcium

signaling can activate NFKB producing chronic immune activation[4, 34]. The archaea and viroid can induce chronic immune activation and generation of superantigens. The archaea and viroid induced chronic immune activation can lead to monocyte infiltration of the vessel wall, cardiac and endocrine tissues leading on to reparative connective tissue macromolecular deposition. Immune activation results in induction of NADPH oxidase which generates hydrogen peroxide. Cholesterol oxidase activity also generates hydrogen peroxide. Hydrogen peroxide can produce tissue injury in MNG, CCP, EMF and mucoid angiopathy contributing to reparative connective tissue macromolecular deposition. Immune activation can also produce insulin resistance. TNF alpha produced by chronic immune activation can modulate the insulin receptor producing insulin resistance[35]. Chronic immune activation and cholesterol oxidase generated hydrogen peroxide can induce neutral sphingomyelinase generating ceramide producing insulin resistance[36]. This can contribute to chronic calcific pancreatitis. Immune activation and NFKB induction can suppress the thyroid hormone receptor resulting in hypothyroidism and increased TSH levels contributing to thyroid gland enlargement and multinodular goitre. Immune activation and NFKB induction can suppress the nuclear receptors LXR, PXR and FXR. FXR suppression can also lead to insulin resistance as well as increased connective tissue MPS deposition in vessel wall, cardiac tissue and endocrine tissue. LXR suppression by NFKB stimulates HMG CoA reductase activity and suppresses cholesterol 7 alpha hydroxylase activity[37]. This stimulates cholesterol synthesis and inhibits its degradation via the bile acid pathway. PXR suppression by NFKB prevents cholesterol detoxification via the bile acid shunt pathway[38]. Thus LXR and PXR suppression by NFKB produces acute cholesterol toxicity. The increased cholesterol in the system leads to still further archaeal multiplication and growth as they depend on cholesterol as a carbon and energy source.

Archaea, viroids and digoxin can induce the host AKT PI3K, AMPK, HIF alpha and NFKB producing the Warburg metabolic phenotype[39]. The increased glycolytic hexokinase activity, decrease in blood ATP, leakage of cytochrome C, increase in serum pyruvate and decrease in acetyl CoA indicates the generation of the Warburg phenotype. There is induction of glycolysis, inhibition of PDH activity and mitochondrial dysfunction resulting in inefficient energetics. Mitochondrial dysfunction owing to the Warburg's phenotype can contribute to ineffective glucose utilisation and CCP. The accumulated pyruvate enters the gaba shunt pathway and is converted to citrate which is acted upon by citrate lyase and converted to acetyl CoA, used for cholesterol synthesis[39]. The increased cholesterol substrate also leads to increased archaeal growth and digoxin synthesis due to metabolic channeling to the mevalonate pathway. The Warburg phenotype leads to increased lipid synthesis and defective beta oxidation of fatty acids. The myocardium depends on fatty acids beta oxidation for energetics. The defective beta oxidation of fatty acids leads to myocardial dysfunction and EMF. The Warburg phenotype leads to upregulated glycolysis and increase in the metabolite fructose 1, 6 diphosphate which is channelled to the pentose phosphate pathway. This can generate UDP sugars used for mucopolysaccharide synthesis. This results in acidic MPS deposition in the tissues leading onto EMF, CCP, MNG and mucoid angiopathy. The pyruvate can be converted to glutamate and ammonia which is oxidised by archaea for energy needs. Ammonia can stimulate membrane sodium-potassium ATPase, increase ATP utilisation and produce mitochondrial transmembrane potential changes leading to mitochondrial dysfunction. This causes defective glucose utilisation contributing to CCP. Archaeal urease can convert urea to ammonia and thiocyanate. Increase cyanide load in the system can lead to mitochondrial dysfunction[3]. Cyanide related mitochondrial dysfunction can produce EMF, CCP and MNG. It produces defective cardiac function, decreased glucose utilisation and impaired iodide transport into the thyroid follicular cells. The

Warburg phenotype can also lead onto malignant transformation. The upregulated glycolysis results in increased mitochondrial PT pore hexokinase and cell proliferation producing carcinoma of thyroid and pancreas.

Digoxin can produce sodium-potassium ATPase inhibition and inward movement of plasma membrane cholesterol. This produces defective SREBP sensing, increased HMG CoA reductase activity and cholesterol synthesis[29]. The digoxin induced inward movement of plasma membrane cholesterol can alter membrane cholesterol/sphingomyelin ratio producing modified lipid microdomains[40]. The digoxin induced lipid microdomain modulation can regulate the GPCR couple adrenaline, noradrenaline, glucagon and neuropeptide receptors as well as protein tyrosine kinase linked insulin receptor. This can lead onto CCP. The digoxin mediated inhibition of nuclear membrane sodium-potassium ATPase can modulate nuclear membrane lipid microdomains and thyroxine DNA receptor function. This can lead onto hypothyroidism, increased TSH levels and thyroid gland enlargement contributing to MNG. Digoxin can produce intracellular hypercalcemia and hypomagnesemia. This can lead on to vasospasm and thrombosis. Intracellular hypercalcemia can activate the G-protein coupled thrombin receptor and PAF receptor producing thrombosis. Intracellular magnesium deficiency can lead onto increased thrombin and ADP/collagen induced platelet aggregation. This leads onto the thrombotic state in mucoid angiopathy. The decreased intracellular magnesium can produce ATP synthase inhibition and the increased intracellular calcium can produce mitochondrial PT pore dysfunction. Mitochondrial dysfunction can contribute to decreased glucose utilisation in CCP and myocardial dysfunction in EMF. Digoxin can produce sodium-potassium ATPase inhibition and intracellular hypomagnesemia. The increased tissue rutile load can lead to rutile-magnesium exchange leading onto intracellular hypomagnesemia. Hypomagnesemia can lead onto upregulated connective tissue macromolecular synthesis contributing

to MNG, CCP, EMF and mucoid angiopathy. Acidic MPS deposition in the vessel wall leads to a hose pipe narrowing of the entire vascular tree leading onto mucoid angiopathy. Acidic MPS, collagen and elastin deposition of the heart leads to EMF. Hyperdigoxinemia is important in the pathogenesis of EMF, CCP, MNG and mucoid angiopathy. Digoxin induced sodium-potassium ATPase inhibition results in an ATP sparing effect[41]. Eighty percent of the ATP generated is used to run the sodium-potassium ATPase pump. The digoxin inhibition of the sodium-potassium ATPase spares this ATP which is then used for lipid and cholesterol synthesis. Fat also fuels insulin resistance by binding to the toll receptor and producing immune activation and immune infiltration of the adipose tissue. Digoxin can also increase lymphocytic intracellular calcium which leads on to induction of NFKB and immune activation[4]. The archaeal cholesterol catabolism can deplete the lymphocytic cell membranes of cholesterol resulting in alteration of lymphocytic cell membrane microdomains related receptors producing immune activation, monocytic infiltration and reparative connective tissue macromolecular deposition.

NMDA can be activated by digoxin induced calcium oscillations, PAH and viroid induced RNA interference[4]. The cholesterol ring oxidase generated pyruvate can be converted by the GABA shunt pathway to glutamate. Glutamatergic transmission can lead to immune activation. Immune activation can lead to reparative connective tissue macromolecular deposition in EMF, CCP, MNG and mucoid angiopathy. The cholesterol aromatase generated serotonin is well known to produce connective tissue macromolecule especially collagen deposition producing the fibrotic changes in EMF, mucoid angiopathy, MNG and CCP. The archaeal cholesterol aromatase can generate PAH[19]. The PAH can also lead to insulin resistance and CCP. PAH can also inhibit thyroid hormone receptor function contributing to hypothyroidism, increased TSH, thyroid enlargement and MNG. Particulate pollution has been related to

vascular thrombosis and can lead to mucoid angiopathy. PAH particles are also known to produce myocardial dysfunction. Thus the actinide, viroid and mevalonate pathway bacteria induced metabolic, genetic, immune and neuronal transmission changes can lead onto endemic EMF, CCP, MNG and mucoid angiopathy. The term archaea and viroid induced endemic cardiovascular and endocrine mucopolysaccharidoses can be used to describe this entity.

The metal actinides provide radiolytic energy, catalysis for oligomer formation and provide a coordinating ion for metalloenzymes all important in abiogenesis[6]. The metal actinide surfaces would by surface metabolism generate acetate which could get converted to acetyl CoA and then to cholesterol which functions as the primal prebiotic molecule self organizing into self replicating supramolecular systems, the lipid organism[42]. Cholesterol by radiolysis by actinides would have formed PAH generating PAH aromatic organism[8]. Cholesterol radiolysis would generate pyruvate which would get converted to amino acids, sugars, nucleotides, porphyrins, fatty acids and TCA acids. Anastase and rutile surfaces can produce polymerization of amino acids, isoprenyl residues, PAH and nucleotides to generate the initial lipid organism, PAH organism, prions and RNA viroids which would have symbiosed to generate the archaeal protocell. The archaea evolved into gram negative and gram positive bacteria with a mevalonate pathway which had a evolutionary advantage and the symbiosis of archaea with gram negative organism generated the eukaryotic cell[43]. The data supports the persistence of an actinide and cholesterol based shadow biosphere which throws light on the actinide based origin of life and cholesterol as the premier prebiotic molecule. The presence of placer deposits and mineral sands containing monazite, illmenite, rutile and thorium in the Lemurian supercontinent would have made it the ideal place for the primitive cell, nanoarchaea, eukaryote, multicellular eukaryote, primates and humans to evolve. Anthropological studies have provided evidence for the

evolution of primates and homosapiens in the rift valley of Kenya part of the prehistoric Lemurian continent.

The archaea can synthesize magnetite by biomineralization. The archaeal cholesterol catabolism can generate PAH. The archaea can exist as nanoarchaea and can have calcified nano forms. The actinidic magnetotactic nanoarchaea and its secreted PAH organisms are extremophiles and survive in the interstellar space and can contribute to the interstellar grains and magnetic fields which play a role in the formation of the galaxies and star systems[44]. The cosmic dust grains occupy the intergalactic space and are thought to be formed of magnetotactic bacteria identified according to their spectral signatures. According to the Hoyle's hypothesis, the cosmic dust magnetotactic bacteria play a role in the formation of the intergalactic magnetic field. A magnetic field equal in strength to about one millionth part of the magnetic field of earth exists throughout much of our galaxy. The magnetic files can be used to trace the spiral arms of the galaxy following a pattern of field lines that connect young stars and dust in which new stars are formed at a rapid rate. Studies have shown that a fraction of the dust particles have elongated shape similar to bacilli and they are systematically lined up in our galaxy. Moreover the direction of alignment is such that the long axes of the dust tend to be at right angles to the direction of the galactic magnetic field at every point. Magnetotactic bacteria have the property to affect the degree of alignment that is observed. The fact that the magnetotactic bacteria appear to be connected to the magnetic field lines that thread through the spiral arms of the galaxy connecting one region of star formation to another support a role for them in star formation and in the mass distribution and rotation of stars. The nutrient supply for a population of interstellar bacteria comes from mass flows out of supernovas populating the galaxy. Giants arising in the evolution of such stars experience a phenomenon in which material containing nitrogen, carbon monoxide, hydrogen, helium,

water and trace elements essential for life flows continuously outward into space. The interstellar bacteria need liquid water. Water exists only as vapour or solid in the interstellar space and only through star formation leading to associated planets and cometary bodies can there be access to liquid water. To control conditions leading to star formation is of paramount importance in cosmic biology. The rate of star formation is controlled by two factors: Too high a rate of star formation produces a destructive effect of UV radiation and destroys cosmic biology. Star formation as stated before produces water crucial for bacterial growth. Cosmic biology of magnetotactic bacteria and star formation are thus closely interlinked. Systems like solar systems do not arise in random condensation of blobs of interstellar gas. Only by a rigorous control of rotation of various parts of the system would galaxies and solar system evolved. The key to maintaining control over rotation seems to lie in the intergalactic magnetic field as indeed the whole phenomena of star formation. The intergalactic magnetic fields owes its origin to the lining up of magnetotactic bacteria and the cosmic biology of interstellar bacteria can prosper only by maintaining a firm grip on the interstellar magnetic field and hence on the rate of star formation and type of star system produced. This points to a cosmic intelligence or brain capable of computation, analysis and exploration of the universe at large – of magnetotactic bacterial networks. The origin of life on earth according to the Hoyle's hypothesis would be by seeding of bacteria from the outer intergalactic space. Comets carrying microorganisms would have interacted with the earth. A thin skin of graphitized material around a single bacteria or clumps of bacteria can shield the interior from destruction by UV light. The sudden surge and diversification of species of plants and animals and their equally sudden extinction has seen from fossil records point to sporadic evolution produced by induction of fresh cometary genes with the arrival of each major new crop of comets[45, 46]. The interstellar PAH aromatic organism is formed from nanoarchaeal cholesterol catabolism. The PAH and cholesterol are

the interconvertable primal prebiotic molecules. PAH aromatic organism and nanoarchaeal magnetite can have a wave particle existence and bridge the world of bosons and fermions. The nanoarchaea can form biofilms and the PAH aromatic organism can form a molecular quantum computing cloud in the biofilm which forms a interstellar intelligence regulating the formation of star systems and galaxies. The magnetite loaded nanoarchaeal biofilms and PAH aromatic organism quantal computing cloud can bridge the wave particle world functioning as the anthropic observer sensing gravity which orchestrates the reduction of the quantal world of possibilities in to the macroscopic world. The actinide based nanoarchaea can regulate the earth's carbon cycle by methanogenesis, nitrogen cycle by ammonia oxidation and rain formation by contributing the seeding nucleus. The earth's temperature and global warming and cooling are regulated by nanoarchaeal synthesised PAH from cholesterol and methanogenesis. The increased nanoarchaeal growth in ocean beds and soil leads to increased methane production and movement of the earth's crust producing tsunamis and massive earthquake leading to catastrophic mass extinction[47]. This nanoarchaeal growth in the Southern ocean and Indian ocean bed due to global warming induced by civilizational progress and human activity would have led to methane burps in the ocean bed contributing to massive earthquakes leading onto Tsunamis. This would have led to catastrophic destruction of the Lemurian supercontinent. The migration of the Lemurian survivors into the Indian sub-continent Indus valley, the Nile valley and the Mesopotamian valley would have contributed to the origin of the Harappan, Sumerian and Egyptian civilization which have all evolved during the same period of human history[48, 49]. The eternal nanoarchaea survive and start the cycle of evolution once more. The actinide based nanoarchaea regulates the human system and biological universe.

The coexistence of EMF, CCP and MNG in South India, South Africa, Australia and South America is thus an indirect evidence for the existence of the Lemurian supercontinent containing these land masses. The actinidic nanoarcheal growth would have led to methane burps in the ocean bed contributing to earthquakes and Tsunamis producing extinction of the Lemurian supercontinent. It also supports the abiogenesis on radioactive actinidic beach sands through the process of surface metabolism. This gives support to the role of actinidic archaea as the third element that controls life and its role in the evolution of the multicellular eukaryote, primates and humans. Civilization and humans would have evolved in the placer deposits and actinidic sand rich pre-historic Lemurian supercontinent in the Indian and Southern ocean[48, 49].

The increased incidence of EMF, CCP, MNG and autism in the Nair community and the increased prevalence of the Neanderthal anthropometric features in the Nair community and in EMF, CCP, MNG and autism suggests a Lemurian origin for homo neanderthalis. This suggests an out of oceania hypothesis for homo neanderthalis with later migration to the Eurasian land mass consequent to destruction of the supercontinent by Tsunamis. The Tsunamis would have been precipitated by increased archaeal growth in the oceanic beds and movements in the earth crust produced by released methane. The homo neanderthalis also originated due to increased endosymbiotic actinidic archaeal growth.

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♦♦♦ Chapter 10 ♦♦♦

The Neanderthals and Proto-Dravidian Civilisation – An Oceanic Origin for Rig Veda

The increased prevalence of autism in the Dravidian Nair community has been documented. Autistic children and the Nair population tend to have Neanderthal anthropometric features. There is increased incidence of EMF, CCP, MNG and mucoid angiopathy in the population inhabiting the land masses arising out of the Lemurian supercontinent in the Indian ocean. The South Indian land mass was a part of the Lemurian supercontinent in the Indian and Southern ocean which was destroyed by giant Tsunamis and the population inhabiting the supercontinent are represented by the Dravidian population of South India. The population that migrated from the Lemurian land mass travelled over to the Eurasian land mass creating the urban civilizations of Harappa-Mohenjadaro, Sumeria, Etruscia, basque, celts and Egypt. All these ancient civilizations were co-terminus and existed at the same point of time at least 10,000 years BC. The Harappa-Mohenjadaro civilization is considered to be Dravidian and the Harappan script has been decoded and found to be Akkadian-Dravidian. All the Harappa-Mohenjadaro, Sumeria, Etruscia, basque, celts and Egypt civilizations spoke the Akkadian-Dravidian language. As has been demonstrated the Dravidian Nair community has Neanderthal anthropometric features and Neanderthal metabolonomics. All the above mentioned civilizations have a possible Neanderthal origin. The Dravidian community is postulated to have evolved in the Lemurian continent.

The homo neanderthalis would have evolved in the Lemurian supercontinent in the Indian and Southern ocean during periods of extremes of weather. During the ice age and periods of global warming, there is increasing growth of the extremophilic archaea in the human body and oceanic ecosystems. The increasing growth of archaea in the ocean bed leads to release of methane which triggers catastrophic earthquakes in the oceans. This precipitates Tsunamis in the Indian ocean and one of them would have destroyed the Lemurian land mass

triggering a mass exodus. This would be the basis of the flood myths in history. The increasing growth of cholesterol catabolising archaea in the primates leads to evolution of homo neanderthalis. The archaea binds to the toll receptor inducing HIF alpha suppressing mitochondrial function and increasing glycolysis. The archaeal catabolism of cholesterol produces cholesterol depletion and bile acid deficiency. Both these factors induce the metabolic syndrome and insulin resistance leading to trunkal obesity and the Neanderthal phenotype. The low cholesterol levels leads to vitamin D deficiency and rickets generating the Neanderthal phenotype with the characteristic anthropometric features. The cholesterol catabolism and ring oxidation leads to generation of pyruvate which is transferred to the GABA shunt pathway. This generates glycine and succinyl CoA synthesizing porphyrins which are dipolar molecules. The cholesterol catabolism generates digoxin which inhibits membrane sodium potassium ATPase and produces a Bose-Einstein condensate via the dipolar porphyrins inducing quantal perception. The digoxin induced membrane sodium potassium ATPase inhibition depletes the cell of magnesium inhibiting reverse transcriptase activity and HERV generation. The HERV produces genomic flexibility and lack of it leads to prefrontal cortex atrophy. The porphyrin induced quantal perception of low level EMF also leading to prefrontal cortex atrophy. There is cerebellar dominance in the Neanderthal phenotype leading onto increased intuitiveness, quantal perception, spirituality, community spirit, compassion, equality and feeling of oneness with the environment. Thus the Neanderthal phenotype would have evolved in the Lemurian continent with its attached antartic land mass in the ice age. The Neanderthals would evolve due to similar mechanism during period of global warming. The evolution near the antartic part of the Lemuria and the decreasing availability of sunlight would have contributed to the light skin colour of Neanderthals. The Neanderthals following destruction of the Lemurian supercontinent would have migrated to Harappa-Mohenjadaro, Sumeria, Etruscia, basque, celts and Egypt creating a

global Dravidian civilization. This civilization had a language, was spiritual, had gender equality and social equality. It was also a creative urban civilization in Harappa-Mohenjadaro, Sumeria, Etruscia, basque, celts and Egypt.

The Harappa-Mohenjadaro, Sumeria, Etruscia, basque, celts and Egypt are essentially Dravidian and neanderthalic. The Harappan civilization was thus similarly neanderthalic and Dravidian. The initial inhabitants of Harappa were the Asuras and they are the Dravidian Neanderthals. The Rigveda had a Harappan origin. The principal God the Rigveda is Varuna – the God of the Oceans. Such a concept would have evolved only in a land mass surrounded by oceans and in ocean travelers suggesting a neanderthalic Dravidian origin of Rigveda. The Indus script has been deciphered and is supposed to be logographic and of Akkadian-Dravidian origin. The Harappan civilization had thus a language, Rigvedic religion, laws and was urbanized. The Harappan civilization originated in and was made up of Neanderthal Dravidians migrating from Lemuria destroyed by Tsunamis. It was a sister civilization to the other neanderthalic Dravidian civilizations of Sumeria, Etruscia, basque, celts and Egypt. It was part of the global Dravidian civilization.

The Rigveda includes concepts of battle between asuric neanderthalic Dravidians of Harappa and the invading homo sapien Devas. The homo sapien Devas had a different brain structure with predominant prefrontal lobe and smaller cerebellum. They evolved out of Africa and HERV generation led to a dynamic large prefrontal cortex. They were different phenotypically from the asuric Dravidian Neanderthals. The asuric Dravidian Neanderthals were cultured with language, religion, laws and social organization. The asuric Dravidian Neanderthals were matrilineal. They were more gender-equal with alternate modes of sexual behaviour. The asuric Dravidian Neanderthals were social equal with a primitive type of communism. The homo sapien Devas did

not have a language, laws or religion and were relatively uncivilized. They were more patriarchial and male dominant. The homo sapien Deva invasion of the neanderthalic Harappan society led to the generation of Neanderthal hybrids and the hybrids got their religion and language as well as civilized behaviour from the neanderthalic Harappan Dravidians. The basis of human creativity can be related to this interaction between the Dravidian asuric Neanderthals and the homo sapien Devas. The Rigveda is basically of Dravidian neanderthalic origin. The initial global language was Akkadian-Dravidian. The Sanskrit language is a modification of the Akkadian-Dravidian script. The homo sapien Deva invasion led to the collapse of the global Dravidian civilization of Harappa-Mohenjadaro, Sumeria, Etruscia, basque, celts and Egypt. The great religions of the world the Judaeo-Christianity, Muslim and Hindu are basically Dravidian Neanderthal and Semitic. The Dravidian Neanderthal community migrating out of Lemuria was the basis of the Semitic community and the Semitic religions of the world. The neanderthalic brain was attuned to quantal perception and spirituality.

In the present situation of global warming there is an increased growth of archaea in the human system and neanderthalisation of humans. The Neanderthals have returned and the human brain is becoming neanderthalic in behavior and function. This is responsible for the rising tide of autism, schizophrenia and metabolic syndrome x in the world.

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♦♦♦ Chapter 11 ♦♦♦

Neanderthalic Endosymbiotic Actinidc Archaea/Viroids, Quantal Perception and Biological Reincarnation

Introduction

An endosymbiotic actinidic archaea and viroid mediated model of quantal perception and biological reincarnation is presented. Actinidic archaea and viroids has been related to the pathogenesis of schizophrenia, autism and primary seizure disorder[2]. Actinidic archaea have a mevalonate pathway and cholesterol catabolism[1-8]. The endosymbiotic actinidic archaea and viroids have got axonal and transynaptic transport functioning as biological neurotransmitters. The human brain can be compared to a well organised modified archaeal biofilm with archaeal derived viroids serving as messengers. The actinidic archaea with its magnetite can mediate quantal perception and store biological information. The actinidic archaea are eternal and the biological information stored in archaeal magnetite quantal computers may serve as a store of biological information in nature. The actinidic archaeal magnetite mediated quantal perception also forms the basis of the collective unconscious. This can mediate the mechanism of reincarnative memories.

Materials and Methods

Informed consent of the subjects and the approval of the ethics committee were obtained for the study. The following groups were included in the study: – schizophrenia, autism and primary seizure disorder/primary generalized epilepsy. There were 10 patients in each group and each patient had an age and sex matched healthy control selected randomly from the general population. The blood samples were drawn in the fasting state before treatment was initiated. Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+rutile 0.1 mg/ml, (IV) same as II+ciprofloxacine and

doxycycline each in a concentration of 1 mg/ml. Cholesterol substrate was prepared as described by Richmond[9]. Aliquots were withdrawn at zero time immediately after mixing and after incubation at 37 ℃ for 1 hour. The following estimations were carried out: – Cytochrome F420, free RNA, free DNA, polycyclic aromatic hydrocarbon, hydrogen peroxide, dopamine, noradrenaline, serotonin, pyruvate, ammonia, glutamate, acetyl choline, hexokinase, HMG CoA reductase, digoxin and bile acids[10, 11, 12, 13]. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). Polycyclic aromatic hydrocarbon was estimated by measuring hydrogen peroxide liberated by using glucose reagent. The statistical analysis was done by ANOVA.

Results

The parameters checked as indicated above were: – cytochrome F420, free RNA, free DNA, muramic acid, polycyclic aromatic hydrocarbon, hydrogen peroxide, serotonin, pyruvate, ammonia, glutamate, cytochrome C, hexokinase, ATP synthase, HMG CoA reductase, digoxin and bile acids. Plasma of control subjects showed increased levels of the above mentioned parameters with after incubation for 1 hour and addition of cholesterol substrate resulted in still further significant increase in these parameters. The plasma of patients showed similar results but the extent of increase was more. The addition of antibiotics to the control plasma caused a decrease in all the parameters while addition of rutile increased their levels. The addition of antibiotics to the patient's plasma caused a decrease in all the parameters while addition of rutile increased their levels but the extent of change was more in patient's sera as compared to controls. The results are expressed in tables 1-8 as percentage change in the parameters after 1 hour incubation as compared to the values at zero time.

Table 1 *Effect of rutile and antibiotics on cytochrome F 420 and noradrenaline.*

Group	CYT F420 % (Increase with Rutile)		CYT F420 % (Decrease with Doxy)		Noradrenaline % (Increase with Rutile)		Noradrenaline % (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.48	0.15	18.24	0.66	4.43	0.19	18.13	0.63
Schizo	23.24	2.01	58.72	7.08	22.50	1.66	60.21	7.42
Seizure	23.46	1.87	59.27	8.86	23.81	1.19	61.08	7.38
Autism	21.68	1.90	57.93	9.64	23.52	1.49	63.24	7.36
P value F value	306.749 < 0.001		130.054 < 0.001		380.721 < 0.001		171.228 < 0.001	

Table 2 *Effect of rutile and antibiotics on dopamine and Serotonin.*

Group	DOPAMINE % change (Increase with Rutile)		DOPAMINE % change (Decrease with Doxy)		Serotonin % change (Increase with Rutile)		Serotonin % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.41	0.15	18.63	0.12	4.34	0.15	18.24	0.37
Schizo	21.88	1.19	66.28	3.60	23.02	1.65	67.61	2.77
Seizure	22.29	1.33	65.38	3.62	22.13	2.14	66.26	3.93
Autism	22.76	2.20	67.63	3.52	22.79	2.20	64.26	6.02
F value P value	403.394 < 0.001		680.284 < 0.001		348.867 < 0.001		364.999 < 0.001	

Table 3 *Effect of rutile and antibiotics on free DNA and RNA.*

Group	DNA % change (Increase with Rutile)		DNA % change (Decrease with Doxy)		RNA % change (Increase with Rutile)		RNA % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.37	0.15	18.39	0.38	4.37	0.13	18.38	0.48
Schizo	23.28	1.70	61.41	3.36	23.59	1.83	65.69	3.94
Seizure	23.40	1.51	63.68	4.66	23.08	1.87	65.09	3.48
Autism	22.12	2.44	63.69	5.14	23.33	1.35	66.83	3.27
F value P value	337.577 < 0.001		356.621 < 0.001		427.828 < 0.001		654.453 < 0.001	

Table 4 *Effect of rutile and antibiotics on HMG CoA reductase and PAH.*

Group	HMG CoA R % change (Increase with Rutile)		HMG CoA R % change (Decrease with Doxy)		PAH % change (Increase with Rutile)		PAH % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.30	0.20	18.35	0.35	4.45	0.14	18.25	0.72
Schizo	22.91	1.92	61.63	6.79	23.01	1.69	59.49	4.30
Seizure	23.09	1.69	61.62	8.69	22.67	2.29	57.69	5.29
Autism	22.72	1.89	64.51	5.73	22.61	1.42	64.48	6.90
F value	319.332		199.553		391.318		257.996	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 5 *Effect of rutile and antibiotics on digoxin and bile acids.*

Group	Digoxin (ng/ml) (Increase with Rutile)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)		Bile acids % change (Increase with Rutile)		Bile acids % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	0.11	0.00	0.054	0.003	4.29	0.18	18.15	0.58
Schizo	0.55	0.06	0.219	0.043	23.20	1.87	57.04	4.27
Seizure	0.51	0.05	0.199	0.027	22.61	2.22	66.62	4.99
Autism	0.53	0.08	0.205	0.041	22.21	2.04	63.84	6.16
F value	135.116		71.706		290.441		203.651	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 6 *Effect of rutile and antibiotics on pyruvate and hexokinase.*

Group	Pyruvate % change (Increase with Rutile)		Pyruvate % change (Decrease with Doxy)		Hexokinase % change (Increase with Rutile)		Hexokinase % change (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.34	0.21	18.43	0.82	4.21	0.16	18.56	0.76
Schizo	20.99	1.46	61.23	9.73	23.01	2.61	65.87	5.27
Seizure	20.94	1.54	62.76	8.52	23.33	1.79	62.50	5.56
Autism	21.91	1.71	58.45	6.66	22.88	1.87	65.45	5.08
F value	321.255		115.242		292.065		317.966	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 7 *Effect of rutile and antibiotics on hydrogen peroxide and acetyl choline.*

Group	H_2O_2 % (Increase with Rutile)		H_2O_2 % (Decrease with Doxy)		Acetyl Choline% (Increase with Rutile)		Acetyl Choline % (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.43	0.19	18.13	0.63	4.40	0.10	18.48	0.39
Schizo	22.50	1.66	60.21	7.42	22.52	1.90	66.39	4.20
Seizure	23.81	1.19	61.08	7.38	22.83	1.90	67.23	3.45
Autism	23.52	1.49	63.24	7.36	23.20	1.57	66.65	4.26
F value	380.721		171.228		372.716		556.411	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 8 *Effect of rutile and antibiotics on glutamate and ammonia.*

Group	Glutamate % (Increase with Rutile)		Glutamate % (Decrease with Doxy)		Ammonia % (Increase with Rutile)		Ammonia % (Decrease with Doxy)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.34	0.21	18.43	0.82	4.40	0.10	18.48	0.39
Schizo	20.99	1.46	61.23	9.73	22.52	1.90	66.39	4.20
Seizure	20.94	1.54	62.76	8.52	22.83	1.90	67.23	3.45
Autism	21.91	1.71	58.45	6.66	23.20	1.57	66.65	4.26
F value	321.255		115.242		372.716		556.411	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Discussion

There was increase in cytochrome F420 indicating archaeal growth. The archaea can synthesise and use cholesterol as a carbon and energy source[14, 15]. The archaeal origin of the enzyme activities was indicated by antibiotic induced suppression. The study indicates the presence of actinide based archaea with an alternate actinide based enzymes or metalloenzymes in the system as indicated by rutile induced increase in enzyme activities[16]. There was also an increase in archaeal HMG CoA reductase activity indicating increased cholesterol synthesis by the archaeal mevalonate pathway. The archaeal beta hydroxyl steroid dehydrogenase activity indicating digoxin synthesis and archaeal cholesterol

hydroxylase activity indicating bile acid synthesis were increased[7]. The archaeal cholesterol oxidase activity was increased resulting in generation of pyruvate and hydrogen peroxide[15]. The pyruvate gets converted to glutamate and ammonia by the GABA shunt pathway. The pyruvate can get converted to acetyl CoA and acetyl choline. The archaeal aromatization of cholesterol generating PAH, serotonin and dopamine was also detected[17]. The archaeal glycolytic hexokinase activity and archaeal extracellular ATP synthase activity were increased. The archaea can undergo magnetite and calcium carbonate mineralization and can exist as calcified nanoforms[18].

The archaea and viroids can regulate the nervous system including the NMDA/GABA thalamocorticothalamic pathway mediating conscious perception[2, 19]. NMDA/GABA receptors can be modulated by digoxin induced calcium oscillations resulting in NMDA/glutamic acid decarboxylase (GAD) activity induction, PAH increasing NMDA activity and inducing GAD as well as viroid induced RNA interference modulating NMDA/GABA receptors[2]. The cholesterol ring oxidase generated pyruvate can be converted by the GABA shunt pathway to glutamate and GABA. Increased NMDA transmission has been described in schizophrenia, autism and primary seizure disorder. The archaeal bile acids are chemically diverse and structurally different from human bile acids. The archaeal bile acids can bind olfactory GPCR receptors and stimulate the limbic lobe producing a sense of social identity. The dominance of archaeal bile acids over human bile acids in stimulating the olfactory GPCR – limbic lobe pathway leads to loss of social identity and schizophrenia/autism. The archaeal bile acids are important as modulators of the limbic lobe and gives social, group and racial identity to humans.

The brain functions as a quantum computer with quantum computer memory elements constituted of superconducting quantum interference devices – the

SQUIDS which can exists as superpositions of macroscopic states. Bose condensation, the basis of superconductivity is achievable at room temperature in the frohlich model in biological systems. The dielectric archaeal magnetite and PAH are excellent electric dipole oscillators which exists under a steep neuronal membrane voltage gradient. The individual oscillators are energised with constant source of pumping energy from outside by digoxin binding to membrane sodium potassium ATPase and producing a paroxysmal depolarisation shift in the neuronal membrane. This prevents the dipole oscillators from ever settling into thermal equilibrium with the cytoplasm and the interstitial fluid which is always kept at constant temperature. Bose condensed states produced by digoxin mediated dielectric magnetite molecular pumped phonon system could be used to store information which might be encoded – all within the lowest collective frequency mode – by appropriately adjusting the amplitude and phase relations between the dipole oscillators. The external world sensory impression exists in the dipole oscillators as probabilistic multiple superimposed patterns – the U phase of quantum mechanics. The part of the incoming quantal data maps of the external world built by subliminal perception in logical sequence and corollary to the external cortical world map built by conscious perception is chosen. Digoxin by acting on neuronal membrane helps to magnify the chosen map to one graviton criteria and to the threshold required for the neuronal network to fire and consciousness. The nanoarchaeal magnetite sensed gravity can also produce the orchestrated reduction of the quantal possibilities to the macroscopic world. The comparison between subliminally perceived quantal maps and previous cortical maps stored in synaptic networks occurs by quantal non-local quasicrystal tiling effect which mediates the activation and deactivation of synapses through contraction and growth of dendritic spines. Digoxin binding to sodium potassium ATPase can modulate lipid microdomains in neuronal membrane altering the conformation of dendritic spine proteins bound to neuronal membrane. This can contribute to contraction and growth of dendritic spines and the quasicrystal

tilling effect. The R part of quantal subthreshold perception is not deterministic and it introduces a completely random element into the time evolution and in the operation of R, there might be a role of free will. In the quantal perception there is no past, present or future. All of them can exist together. This gives an explanation for the extrasensory perception and premonitions and visions of the past. Also in the quantal state, non-locality and action at a distance is possible. This can explain psychokinesis and mind travel. The information stored in one brain can be quantally transferred to the other brain raising the possibility of reincarnative experiences. Quantal perception model of brain function can give an explanation for hypnosis. In the quantal state, depending on the observer function of consciousness matter can be created out of void. The quantal state comes to the particulate state only when there is a quantal observer. Consciousness depends upon quantal subliminal perception by cortical dipole magnetite oscillators. The external world comes into existence depending on the observer function of consciousness. Thus consciousness and the external world are interdependent and the external world exists because of the act of observation. The world is a mirage and is a reflection of the observer function of the consciousness[19].

The archaeal magnetite and archaeal digoxin can store all the world experiences in magnetite dipole oscillators serving as a store of biological quantal information. The archaea are external and never die. The actinidic magnetotactic archaea can carry all the biological information in the world for eternity. The actinidic archaea exists as the third element in each cell and it can carry the biological information in the quantal magnetite computers to the embryonal cells mediating a form of biological reincarnation. The eternal actinidic archaeal third element can serve as a source of pre-existing biological information of a previous life for the purpose of building up the present biological personality of a new individual in continuation with experiences in previous life stored in archaeal magnetite quantal computers. The quantal perception mediated by actinidic

archaea and viroids also gives rise to the phenomena of the collective unconscious where the biological information stored archaeal magnetite quantal computers in different brains function as one single undivided whole[19].

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♦♦♦ Chapter 12 ♦♦♦

Neanderthalic Actinidic Archaea Mediates Biological Transmutation in Human Systems – Nuclear Fission and Fusion in the Brain and Spiritual Energy

Introduction

Biological transmutation has been postulated by several groups of workers in microbial systems[1, 2]. Quantizing structures of optimal size and shape are necessary for non barrier nuclear interactions. The situation is realized in microbial cultures. During the growth process, the replication of DNA and other biomacromolecules takes place. In the region of growth, the interatomic potential holes with slowly changing sizes are constantly appearing and in this situation non barrier nuclear interactions can take place. Actinidic archaea has been described in human systems from our laboratory and function as cellular endosymbionts regulating multiple cellular functions. The actinidic archaea utilizes an alternate biochemistry depended on actinides for enzyme catalysis. The seashores of Kerala are rich in actinidic elements present as rutile, illmenite and monazite. The actinidic archaea is an endosymbiont of the human cell and it is possible that the organism can mediate biological transmutation. Transmutation of magnesium to calcium can serve as a mechanism of regulation of the neuro-immuno-endocrine system. Deficiency of magnesium is seen in degenerations, malignancy, metabolic syndrome X, psychiatric disorders and immune disease[3]. The actinidic archaea can exist as nanoarchaea which can undergo magnetite and calcium mineralization. It is possible that magnesium is being transmuted biologically to calcium to produce amounts sufficient for calcium mineralization. Calcified nanoarchaea can produce a systemic immune activation contributing to the diverse pathologies of degenerations, malignancy, metabolic syndrome X, psychiatric disorders and immune disease to study biological transmutation of magnesium to calcium and cerium. The results are presented in this paper.

Materials and Methods

Informed consent was obtained from all patients included in the study. The permission of the Ethics Committee of the Institute was obtained. Fasting blood was drawn for the study from normal individuals without any systemic disease.

Experimental system was as follows: The basic system contained patient's serum 0.5 ml + normal serum 0.25 ml + physiological buffered saline + cerium chloride 0.1 mg/ml. To the basic system $MgSO_4$ 0.1 mg/ml was added.

The Mg^{++} and Ca^{++} were estimated at 0 hour. The remaining portion was incubated for 16 hours at 37 ℃ for 16 hours. The Mg^{++} and Ca^{++} were estimated at the end of 16 hours. The estimation of Mg^{++} and Ca^{++} were done by using commercial kits. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm).

Results

The results showed that there was a decrease in magnesium and a concomitant increase in calcium in incubated serum samples from normal individuals. The percentage decrease in magnesium was 15.68 to 31.48 percent. The percentage increase in calcium was 10.43 to 9.79 percent. There was detection of cytochrome F420 in the system by fluorescence indicating archaeal growth dependent on actinidic cerium. This showed that the actinidic archaea was mediating the biological transmutation of magnesium to calcium.

Table 1 *Experimental biological transmutation.*

Case	Time	Mg (mEq/l)	% change in Mg	Ca (ng/dl)	% change in Ca
Case 1	0 hr	1.415		0.796	
	16 hrs	1.193	15.68 ↓	8.310	10.43 ↑
Case 2	0 hr	2.290		0.764	
	16 hrs	1.569	31.48 ↓	7.480	9.79 ↑

Discussion

The results showed that there is biological transmutation of magnesium to calcium in human systems mediated by actinidic archaea dependent on cerium for its growth. Regulation of calcium and magnesium levels in the cell by archaeal mediated biological transmutation can regulate multiple physiological systems. Calcium can modulate the mitochondrial PT pore and cell death. Cellular calcium levels are also involved in oncogene activation. Magnesium levels in the cell can regulate glycosylation and protein processing modulating golgi body and lysosomal function. Presynaptic calcium levels can regulate synaptic transmission as well as neurotransmitter release into the synapse. Cellular calcium levels can activate NFKB producing immune activation. Magnesium and calcium levels can modulate mitochondrial function and metabolism[3].

There is magnesium depletion from the system and calcium accumulation which can predispose to malignancy, immune disease, degenerations, schizophrenia and metabolic syndrome X[3]. The increased intracellular calcium can open up the mitochondrial PT pore producing a mitochondrial dysfunction. Magnesium deficiency can produce a mitochondrial ATP synthase defect. The opening of the mitochondrial PT pore produces volume dysregulation of the mitochondria, hyperosmolarity and expansion of the mitochondrial matrix space producing outer membrane rupture. This leads to release of cytochrome C into the cytoplasm, activating the caspase cascade and cell death. Mitochondrial dysfunction and related apoptosis as well as free radical generation has been related to neuronal degeneration. Decreased intracellular magnesium can lead to altered glyconjugate synthesis and a protein processing dysfunction. Protein processing golgi body dysfunction as well as ER stress has been related to neuronal degeneration. Altered cell surface glyconjugates can lead to defective contact inhibition and oncogenesis. This can also produce disordered synaptic connectivity and

functional neuropsychiatric disorders. Altered glyconjugates can lead to defective MHC antigen presenting pathway and autoimmune diseases. A defective presentation of viral antigens can lead to immune evasion by the virus and viral persistence as in AIDS. Increased intracellular calcium can activate the ras oncogene by producing GTPase inhibition and magnesium deficiency related phosphorylation defects can inactivate the tumour suppressor genes. Both of these can contribute to oncogenesis. Increased calcium within the presynaptic neuron can lead to increased glutamate release into the synapse and increased postsynaptic neuronal calcium can increase the NMDA signal transduction. NMDA signal transduction modulates the thalamocorticothalamic reverberatory circuit important in conscious perception and schizophrenia. Increased NMDA signal transduction can contribute to epilepsy and degenerations of neuronal systems. An increase in presynaptic neuronal calcium can promote dopaminergic receptor actions contributing to the hyperdopaminergic state seen in schizophrenia. A decrease in intracellular magnesium can block the phosphorylation reaction involved in protein tyrosine kinase receptor activity leading to insulin resistance and syndrome X. An increase in intracellular calcium can activate the NFKB signal transduction producing immune activation and autoimmune disease. Immune activation has also been related to syndrome X, degenerations, malignant transformation and psychiatric disease.

A calcium excess related PT pore dysfunction of mitochondria can generate free radicals. Free radicals can produce apoptosis, immune activation, insulin resistance and NMDA activity. Free radicals can activate NFKB producing immune activation and autoimmune disease. Free radicals can activate the NMDA receptor modulating conscious perception and leading onto schizophrenia. Free radicals can produce mitochondrial dysfunction and cell death. Free radicals can activate HIF alpha and oncogene activation producing

malignant transformation. Free radicals can produce insulin resistance and metabolic syndrome X.

A shadow biosphere of actinidic archaea has been described in degenerations, malignancy, metabolic syndrome X, psychiatric disorders and immune disease. The archaea transmutates magnesium to calcium for the purpose of biological mineralization. The archaea can exist as nanoarchaea which can get calcified to form calcified nanoarchaeal forms. Calcified nanoarchaeal particles can induce NFKB. This can produce a state of systemic immune activation. This activates the AKT PI3 cascade inducing the Warburg phenotype with anaerobic glycolysis which is the basis of most human disease. The increase in mitochondrial PT pore hexokinase can produce cellular proliferation. The malignant cells depend on glycolysis for its energy needs. The Warburg phenotype can produce malignant transformation. The lymphocytes depend of glycolysis for its energy needs. Increased glycolysis can lead to immune activation. The glycolytic enzyme glyceraldehyde 3 phosphate dehydrogenase mediates nuclear cell death. The glycolysis generated NADPH activates the NOX enzyme important in insulin receptor function and NMDA activity. Thus the creation of Warburg phenotype can produce malignancy, immune disease, degenerations, schizophrenia and metabolic syndrome X.

Thus the transmutation related free radical generation and altered calcium-magnesium ratios in the cell can alter synaptic transmission, mitochondrial function, golgi body/ER function, lysosomal function, immune activation, cell proliferation, insulin resistance and cell death. The actinidic archaea related biological transmutation is an important regulatory mechanism of the cell whose dysfunction can produce altered neuroimmune endocrine regulation. This can lead to human disease. The biological transmutation gives the actinidic archaea energy to survive and generates calcium for its biological mineralization.

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