# The Internet as the Machine Master of the Human Brain – the Spectre of Internet Controlled Live Human Robotic Netocratic Society – Role of Fibre Deficient Diet

Ravikumar Kurup & Parameswara Achutha Kurup

Open Science

# The Internet as the Machine Master of the Human Brain - the Spectre of Internet Controlled Live Human Robotic Netocratic Society - Role of Fibre Deficient Diet

**Ravikumar Kurup**

**Parameswara Achutha Kurup**

Open Science

ISBN: 978-1-946898-43-2




Published in 2017 by Open Science Publishers
228 Park Ave., S#45956, New York, NY 10003, U.S.A.
http://www.openscienceonline.com

# Contents

# Chapter 1

# The Dietary Fibre, Species Evolution and Neuro-Immuno-Genomic-Endocrine Integration - Relation to Internet Exposure

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. Dietary fibre can affect body and cell function. The original evidence linking dietary fibre and body metabolism in relation to systemic disorders came from the work of Kurup *et al*. where it was shown that the dietary fibre regulates cholesterol metabolism in the body and contributes to the genesis of metabolic syndrome X.[1-7] Dietary fibre deficiency produces predominant small intestinal digestion and dietary fibre excess leads to colonic digestion. Small intestinal digestion in the presence of dietary fibre deficiency leads to alteration in colonic flora and archaeal overgrowth. A high fibre diet produces predominantly colonic digestion and leads to suppression of archaeal growth. The colonic archaea seeps through the gut blood barrier producing archaeal endosymbiosis. Thus small intestinal digestion due to dietary fibre deficiency versus colonic digestion due to dietary fibre excess determines the density of archaea in the colon as well as the endosymbiotic compartment.

Dietary fibre is the single most important component of the human diet more important than dietary protein, fats, carbohydrates, vitamins and minerals. Dietary fibre is the substrate that determines symbiosis and symbiotic evolution.

The endosymbiotic archaea regulates human functions and species type and depends upon the colonic archaea whose density is determined by the fibre intake. The colonic archaeal population density depends upon dietary fibre intake. Populations with low fibre intake have lesser density of colonic archaeal microflora and endosymbiotic archaea. Endosymbiotic archaea contributes to neanderthalisation of the species. Populations consuming a high saturated fat and protein diet with low fibre intake tend to get increased endosymbiotic archaeal growth and are neanderthalised. Populations with high fibre intake up to 80 g/day tend to have reduced archaeal density in the colon and reduced archaeal endosymbiosis contributing to homo sapienisation of the population. Thus fibre intake regulates the endosymbiotic archaeal density and type of human species.

Dietary fibre can affect brain function. The colonic digestion of dietary fibre by the microflora generates short chain fatty acids. The short chain fatty acid propionate can produce an autistic brain pathology. The short chain fatty acids can bind to GPCR increasing sympathetic activity. The SCFA acetate, propionate and butyrate can be metabolized by the mitochondria generating ATP. The SCFA butyrate is a HDAC inhibitor and modulates genomic transmission.

Butyrate can modulate cognition and increase cognitive function. The acetate is channelled to the glutamate glutamine cycle and modulates neurotransmitter in the synapse. Butyrate can produce histone hyperacetylation and increase BDNF activity. The SCFA can bind to G-protein coupled FFA receptor producing immunosuppression. The short chain fatty acids are anti-inflammatory. Because the SCFA are anti-inflammatory it can modulate insulin resistance. Dietary fibre

deficiency can lead to metabolic syndrome and autoimmune disease. Butyrate by producing HDAC inhibition is antioncogenic and inhibits oncogenesis. Butyrate can produce HDAC inhibition and alter protein conformation and folding producing modulation and amelioration of genetic disorders. Butyrate can increase BDNF activity in the brain and produces neuroprotection. Thus a high fibre diet protects against civilisational diseases. Butyrate promotes stem cell transformation and converts fibroblast to pluripotent embryonic stem cells. Thus the fibre derived butyrate is a regenerative molecule. Thus dietary fibre deficiency can lead to cancer, metabolic syndrome, stroke, coronary artery disease, neurodegeneration, genetic disorders, autoimmune diseases and protein folding diseases. Dietary fibre is regulatory substance for the neuronal, immune, genomic and endocrine system.

Dietary fibre can alter the colonic microflora. A high fibre intake suppresses colonic archaeal growth and archaeal endosymbiosis. A high fibre diet suppresses endosymbiotic archaeal growth leading onto homo sapienisation of the species. A high fibre diet leads to increased generation of butyrate and HDAC inhibition leading onto expression of the HERV genes and their reintegration into the genome. The HERV jumping genes contributes to the dynamicity of the genome and is important in the evolution of synaptic connectivity and the homo sapien neocortex. A low fibre diet increases colonic archaeal growth and archaeal endosymbiosis contributing to neanderthalisation of the species and the brain. A low fibre diet and reduced levels of butyrate contributes to modulation of histone acetylation and reduced generation of HERV sequences. This contributes to rigidity of the genome and reduced synaptic connectivity. This leads to cerebral cortical suppression and cerebellar dominance contributing to neanderthalisation of the brain and species. Thus fibre intake in the diet alters symbiotic microflora especially archaeal endosymbiosis and human evolution.

***Table 1.*** *Dietary fibre intake.*

| Groups | Fibre content of diet |
|---|---|
| Homo Sapiens | High fibre 80% |
| Homo Neanderthalis | Low fibre 70% |

*Low fibre < 5 g/day; high fibre > 20 g/day

***Table 2.*** *Dietary fibre intake.*

| Groups | Fibre content of diet |
|---|---|
| Normal | High fibre 80% |
| Schizophrenia | Low fibre 70% |
| Autism | Low fibre 60% |

*Low fibre < 5 g/day; high fibre > 20 g/day

## References

[1] Menon, V. P. and Kurup, P. A. 1976. Dietary fiber and cholesterol metabolism - Effect of fiber rich polysaccharide from blackgram (Phaseolus mungo) on cholesterol metabolism in rats fed normal and atherogenic diet. *Biomedicine*, 24(4): 248-53.

[2] Menon PV and Kurup PA, 1976. Hypolipidaemic action of the polysaccharide from Phaseolus mungo (black gram): effect on lipid metabolism, *Indian J Biochem Biophys*, 13, 46.

[3] Menon PV and Kurup PA, 1974. Hypolipidaemic action of the polysaccharide from Phaseolus mungo (black gram). Effect on glycosaminoglycans, lipids and lipoprotein lipase activity in normal rats, *Atherosclerosis*, 19, 315.

[4] Molly Thomas, Leelamma S and Kurup PA, 1990. Neutral detergent fibre from various foods and its hypocholesterolic action in rats, *J Food Sci Technol*, 27, 290.

[5] Molly Thomas, Leelamma S and Kurup PA, 1983. Effect of black gram fiber (Phaseolus mungo) on hepatic hydroxymethyl glutaryl-CoA reductase activity cholesterogenesis and cholesterol degradation in rats, *J Nutrition*, 113, 1104.

[6] Molly Thomas, Leelamma S and Kurup PA, 1990. Effect of black gram fibre (Phaseolus mungo) on the metabolism of lipoproteins in rats, *J Food Sci Technol*, 27, 224.

[7] Vijayagopal P, Devi KS and Kurup PA, 1973. Fibre content of different dietary starches and their effect on lipid levels in high-fat-high-cholesterol diet fed rats, *Atherosclerosis*, 17, 156.

# Chapter 2

## The Internet Controls the Human Brain - The Origin of Neoneanderthals and Ontogenesis of Schizophrenia, Autism and Epilepsy - Role of Dietary Fibre

## Introduction

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. Actinidic archaea has been described as endosymbionts in humans. Actinidic archaea have a mevalonate pathway and are cholesterol catabolising. They can use cholesterol as a carbon and energy source. Archaeal cholesterol catabolism can generate porphyrins via the cholesterol ring oxidase generated pyruvate and GABA shunt pathway. Archaea can produce a secondary porphyria by inducing the enzyme heme oxygenase resulting in heme depletion and activation of the enzyme ALA synthase. The archaea can induce the enzyme heme oxygenase resulting in depletion of heme and induction of ALA synthase. This can lead to porphyrinogenesis. Low level of electromagnetic fields and geomagnetic fields can induce porphyrin synthesis by inhibiting the enzyme ferrochelatase which has got a ferromagnetic core.

Inhibition of ferrochelatase produces deficiency of heme resulting in induction of ALA synthase. Low level of EMF can also induce heme oxygenase depleting heme and inducing ALA synthase. Porphyrins can undergo autooxidation generating biophotons and a quantal state. Porphyrin autooxidation 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 porphyrin quantal computers can in turn by biophoton emission modulate digital information storage system. Actinidic archaea have been related to the pathogenesis of schizophrenia, autism and epilepsy. An actinide dependent shadow biosphere of archaea and viroids in the above mentioned disease states is described. Porphyrins have been related to schizophrenia, autism and epilepsy. Porphyrins can mediate the pathogenesis of low level electromagnetic fields inducing the above mentioned disease states. A hypothesis regarding the role of porphyrins and quantal perception as well as the role of porphyrins in environmental communication/modulation of digital information storage/processing system is presented. The relationship between low level of electromagnetic fields and human disease is highlighted.[1-5]

## Materials and Methods

The following groups were included in the study: - schizophrenia, autism and 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. 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 and, (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, free RNA, free DNA, polycyclic aromatic hydrocarbon, hydrogen peroxide, pyruvate, ammonia, glutamate, delta aminolevulinic acid, succinate, glycine 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), $H_2O_2$ (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 cytoC 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 | | 130.054 | | 391.318 | | 257.996 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 356.621 | | 427.828 | | 654.453 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 71.706 | | 372.716 | | 556.411 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 680.284 | | 348.867 | | 364.999 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 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 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 | | 171.228 | | 372.716 | | 556.411 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

## Section 2: Patient Study

***Table 1.*** *Archaeal metabolonomics in neuropsychiatric disorders.*

| Group | RBC Digoxin (ng/ml RBC Susp) | | Cytochrome F420 | | 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 |
| Schizo | 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.*** *Porphyrin metabolism in neuropsychiatric disorders.*

| 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 |
| Schizo | 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.*** *Heme metabolism in neuropsychiatric disorders.*

| 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 |
| Schizo | 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.*** *Mitochondrial dysfunction in neuropsychiatric disorders.*

| Group | SE ATP (umol/dl) | | 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 |
| NO/BHCD | 0.42 | 0.11 | 2.79 | 0.28 | 7.38 | 0.31 | 40.51 | 1.42 | 1.66 | 0.45 |
| RHCD | 2.24 | 0.44 | 12.39 | 1.23 | 25.99 | 8.10 | 100.51 | 12.32 | 5.46 | 2.83 |
| LHCD | 0.02 | 0.01 | 1.21 | 0.38 | 2.75 | 0.41 | 23.79 | 2.51 | 0.68 | 0.23 |
| Schizo | 1.26 | 0.19 | 11.58 | 0.90 | 22.07 | 1.06 | 96.54 | 9.96 | 7.69 | 3.40 |
| Seizure | 1.66 | 0.56 | 12.06 | 1.09 | 21.78 | 0.58 | 90.46 | 8.30 | 6.29 | 1.73 |
| Autism | 2.03 | 0.12 | 12.48 | 0.79 | 21.95 | 0.65 | 92.71 | 8.43 | 6.95 | 2.02 |
| Exposure to EMF | 1.37 | 0.27 | 12.26 | 1.00 | 23.31 | 1.46 | 103.28 | 11.47 | 7.58 | 3.09 |
| F value | 67.588 | | 445.772 | | 162.945 | | 154.701 | | 18.187 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

***Table 5.*** *GABA shunt in neuropsychiatric disorders.*

| Group | ACOA (mg/dl) | | ACH (ug/ml) | | Glutamate (mg/dl) | | Se. Ammonia (ug/dl) | |
|---|---|---|---|---|---|---|---|---|
| | Mean | ± SD | Mean | ± SD | Mean | ± SD | Mean | ± SD |
| NO/BHCD | 8.75 | 0.38 | 75.11 | 2.96 | 0.65 | 0.03 | 50.60 | 1.42 |
| RHCD | 2.51 | 0.36 | 38.57 | 7.03 | 3.19 | 0.32 | 93.43 | 4.85 |
| LHCD | 16.49 | 0.89 | 91.98 | 2.89 | 0.16 | 0.02 | 23.92 | 3.38 |
| Schizo | 2.51 | 0.57 | 48.52 | 6.28 | 3.41 | 0.41 | 94.72 | 3.28 |
| Seizure | 2.15 | 0.22 | 33.27 | 5.99 | 3.67 | 0.38 | 95.61 | 7.88 |
| Autism | 2.42 | 0.41 | 50.61 | 6.32 | 3.30 | 0.32 | 94.01 | 5.00 |
| Exposure to EMF | 2.14 | 0.19 | 37.75 | 7.31 | 3.47 | 0.37 | 102.62 | 26.54 |
| F value | 1871.04 | | 116.901 | | 200.702 | | 61.645 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

***Table 6.*** *Cholesterol synthesis and catabolism in neuropsychiatric disorders.*

| Group | HMG Co A (HMG CoA/MEV) | | Bile Acid (mg/ml) | |
|---|---|---|---|---|
| | Mean | ± SD | Mean | ± SD |
| NO/BHCD | 1.70 | 0.07 | 79.99 | 3.36 |
| RHCD | 1.16 | 0.10 | 25.68 | 7.04 |
| LHCD | 2.21 | 0.39 | 140.40 | 10.32 |
| Schizo | 1.11 | 0.08 | 22.45 | 5.57 |
| Seizure | 1.14 | 0.07 | 22.98 | 5.19 |
| Autism | 1.12 | 0.06 | 23.16 | 5.78 |
| Exposure to EMF | 1.00 | 0.07 | 22.58 | 5.07 |
| F value | 159.963 | | 635.306 | |
| P value | < 0.001 | | < 0.001 | |

# Abbreviations

NO/BHCD: Normal/Bi-hemispheric chemical dominance; RHCD: Right hemispheric chemical dominance; LHCD: Left hemispheric chemical dominance.

# Discussion

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis and Neuropsychiatric Disease

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. 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]

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Low Level EMF Perception, Internet Addiction and Neuropsychiatric Disorders

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 thalamo-cortico-thalamic pathway mediating conscious perception. Porphyrin photooxidation 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. 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 photo-oxidation 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, autism and epilepsy. 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Internet-Brain Communication and Neuropsychiatric Disorders

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 autooxidation 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Internet Addiction, Low Level EMF Perception, Warburg Phenotype and Neuropsychiatric Disorders

Low level of electromagnetic fields and its porphyrin messengers can induce the Warburg phenotype. An actinide dependent shadow biosphere of archaea and viroids in schizophrenia, autism and epilepsy is described. The archaea can synthesize porphyrins and induce porphyrin synthesis. Porphyrins have been related to schizophrenia, autism and epilepsy. Porphyrins can mediate the effect of low level electromagnetic fields inducing the Warburg phenotype leading to schizophrenia, autism and epilepsy. 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 schizophrenia, autism and epilepsy. Low level electromagnetic fields can induce the Warburg phenotype contributing to schizophrenia, autism and epilepsy.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Internet Addiction, Neuro-Immuno-Endocrine Dysregulation and Neuropsychiatric Disorders

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. This can lead to the genesis of schizophrenia, autism and epilepsy. 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 schizophrenia, autism and epilepsy. 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, antiinflammatory and antiproliferative effects. Heme is also involved in the stress response. Heme deficiency leads to schizophrenia, autism and epilepsy.[3-5] Low level electromagnetic fields can modulate cell functions and neuro-immuno-endocrine-genetic integration via induction of porphyrin synthesis. Thus low level of EMF exposure can produce schizophrenia, autism and epilepsy.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Dysautonomia and Neuropsychiatric Disorders

Low level electromagnetic fields via modulating porphyrin metabolism can produce an autonomic neuropathy. Protoporphyrins block acetyl choline transmission producing a vagal neuropathy with sympathetic overactivity. Vagal neuropathy results in immune activation. A vagal neuropathy underlines oncogene activation, autoimmune processes as well as insulin resistance. 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 cell death. Free radicals can produce mitochondrial PT pore dysfunction. This can lead to cyto C leak and activation of the caspase cascade leading to mitochondrial dysfunction. This can lead to schizophrenia, autism and epilepsy. Altered porphyrin metabolism has been described in schizophrenia, autism and epilepsy. The increased porphyrin photooxidation generated free radicals mediated NMDA transmission can also contribute to epileptogenesis. The protoporphyrins binding to mitochondrial benzodiazepine receptors can regulate brain function.[3, 4, 16]

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Internet Addiction, Dysregulation of Cell Functions and Neuropsychiatric Disorders

Low level electromagnetic fields by modulating porphyrin metabolism can generate redox stress to regulate cell functions. The porphyrins can undergo photooxidation and autooxidation 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, autism and epilepsy. 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.[3-5] 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 photooxidation 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 noncoding 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 and produce schizophrenia, autism and epilepsy. Thus porphyrins can regulate genomic function. The increased expression of HERV RNA can result in schizophrenia, autism and epilepsy.[14, 15]

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Internet Addiction, Immune Activation, Autoimmunity and Neuropsychiatric Disorders

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 autoimmunity in schizophrenia, autism and epilepsy. 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 autoimmunity in schizophrenia, autism and epilepsy.[3, 4] Low level electromagnetic fields by modulating porphyrin metabolism and inducing redox stress can produce insulin resistance. The porphyrin photooxidation mediated free radical injury can lead to insulin resistance and schizophrenia, autism and epilepsy. Thus archaeal porphyrins can contribute to schizophrenia, autism and epilepsy. 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 insulin resistance important in schizophrenia, autism and epilepsy. Porphyrias can lead onto vascular thrombosis.[3, 4] Low level electromagnetic fields by modulating porphyrin metabolism and inducing redox stress/heme deficiency can activate HIF alpha. The porphyrin photooxidation can generate free radicals inducing HIF alpha and producing oncogene

activation. Heme deficiency can lead to activation of HIF alpha and oncogene activation. This can lead to schizophrenia, autism and epilepsy. The protoporphyrins binding to mitochondrial benzodiazepine receptors can regulate cell proliferation.[3, 4] 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 like states in schizophrenia, autism and epilepsy. 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. HERV expression is important in schizophrenia, autism and epilepsy. 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 important in schizophrenia, autism and epilepsy. The archaeal porphyrins are regulatory molecules keeping other prokaryotes and viruses on check.[3, 4]

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis and Evolution of Neuropsychiatric Disorders

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 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 microorganism 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, polysaccharides 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 organisms 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 point 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 noncoding region of the DNA. The increase in noncoding region of the DNA is involved in primate and human evolution. Thus, increased rates of porphyrin synthesis would correlate with increase in noncoding DNA length. The alteration in the length of the noncoding region of the DNA contributes to the dynamic nature of the genome. Thus genetic and acquired porphyrias can lead to alteration in the noncoding region of the genome. The alteration of the length of the noncoding region of the DNA contributes to the racial and individual differences in populations. An increased length of noncoding 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Internet Addiction, Brain and Mind Change

The porphyrins can contribute to the role of low level electromagnetic fields in the pathogenesis of schizophrenia, autism and epilepsy. An actinide

dependent shadow biosphere of archaea and viroids in the above mentioned disease states-schizophrenia, autism and epilepsy is described. Archaeal porphyrin synthesis and induction of endogenous porphyrin synthesis is crucial in the pathogenesis of these disorders. Porphyrins may serve as regulatory molecules modulating immune, neural, endocrine, metabolic and genetic systems. The porphyrins photooxidation generated free radicals can produce immune activation, produce cell death, activate cell proliferation, produce insulin resistance and modulate conscious/quantal perception. Porphyrins can regulate hemispheric dominance. The archaeal porphyrins functions as key regulatory molecules with mitochondrial benzodiazepine receptors playing an important role. Thus the porphyrins contribute to the inducing role of low level electromagnetic fields in the pathogenesis of schizophrenia, autism and epilepsy. Low level electromagnetic fields and its porphyrin messengers can regulate immune, neural, endocrine, metabolic and genetic systems.[3, 4] A hypothesis regarding the role of porphyrins and quantal perception as well as the role of porphyrins in environmental communication/modulation of digital information storage/processing system is presented. 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 relationship between low level of electromagnetic fields and human disease is highlighted.

## References

[1] Eckburg P. B., Lepp, P. W., Relman, D. A. (2003). Archaea and their potential role in human disease, *Infect Immun*, 71, 591-596.

[2] Smit A., Mushegian, A. (2000). Biosynthesis of isoprenoids via mevalonate in Archaea: the lost pathway, *Genome Res*, 10(10), 1468-84.

[3] Puy, H., Gouya, L., Deybach, J. C. (2010). Porphyrias. *The Lancet*, 375(9718), 924-937.

[4] Kadish, K. M., Smith, K. M., Guilard, C. (1999). *Porphyrin Hand Book*. Academic Press, New York: Elsevier.

[5] Gavish M., Bachman, I., Shoukrun, R., Katz, Y., Veenman, L., Weisinger, G., Weizman, A. (1999). Enigma of the Peripheral Benzodiazepine Receptor. *Pharmacological Reviews*, 51(4), 629-650.

[6] Richmond W. (1973). Preparation and properties of a cholesterol oxidase from nocardia species and its application to the enzymatic assay of total cholesterol in serum, *Clin Chem*, 19, 1350-1356.

[7] Snell E. D., Snell, C. T. (1961). *Colorimetric Methods of Analysis.* Vol 3A. New York: Van Nostrand.

[8] Glick D. (1971). *Methods of Biochemical Analysis.* Vol 5. New York: Interscience Publishers.

[9] Colowick, Kaplan, N. O. (1955). *Methods in Enzymology.* Vol 2. New York: Academic Press.

[10] Van der Geize R., Yam, K., Heuser, T., Wilbrink, M. H., Hara, H., Anderton, M. C. (2007). A gene cluster encoding cholesterol catabolism in a soil actinomycete provides insight into Mycobacterium tuberculosis survival in macrophages, *Proc Natl Acad Sci USA*, 104(6), 1947-52.

[11] Francis A. J. (1998). Biotransformation of uranium and other actinides in radioactive wastes, *Journal of Alloys and Compounds*, 271(273), 78-84.

[12] Schoner W. (2002). Endogenous cardiac glycosides, a new class of steroid hormones, *Eur J Biochem*, 269, 2440-2448.

[13] Vainshtein M., Suzina, N., Kudryashova, E., Ariskina, E. (2002). New Magnet-Sensitive Structures in Bacterial and Archaeal Cells, *Biol Cell*, 94(1), 29-35.

[14] Tsagris E. M., de Alba, A. E., Gozmanova, M., Kalantidis, K. (2008). Viroids, *Cell Microbiol*, 10, 2168.

[15] Horie M., Honda, T., Suzuki, Y., Kobayashi, Y., Daito, T., Oshida, T. (2010). Endogenous non-retroviral RNA virus elements in mammalian genomes, *Nature*, 463, 84-87.

[16] Kurup R., Kurup, P. A. (2009). *Hypothalamic Digoxin, Cerebral Dominance and Brain Function in Health and Diseases*. New York: Nova Science Publishers.

[17] Adam Z. (2007). Actinides and Life's Origins, *Astrobiology*, 7, 6-10.

[18] Davies P. C. W., Benner, S. A., Cleland, C. E., Lineweaver, C. H., McKay, C. P., Wolfe-Simon, F. (2009). Signatures of a Shadow Biosphere, *Astrobiology*, 10, 241-249.

[19] Tielens A. G. G. M. (2008). Interstellar Polycyclic Aromatic Hydrocarbon Molecules, *Annual Review of Astronomy and Astrophysics*, 46, 289-337.

[20] Wickramasinghe C. (2004). The universe: a cryogenic habitat for microbial life, *Cryobiology*,48(2), 113-125.

[21] Hoyle F., Wickramasinghe, C. (1988). *Cosmic Life-Force.* London: J. M. Dent and Sons Ltd.

# Chapter 3

## The Surrealistic and Syntheistic Brain - The Global Internet and the Collective Unconscious

## Introduction

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

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

## Internet Addiction, Porphyrin Metabolism and Brain Function

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]

## The Human Brain - Internet Interaction - Syntheism

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 Internet-Brain Interaction Produces a Cerebellar Dominant brain

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 and Brain Neanderthalisation - A New Socio-Cultural Order

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 anti-Cartesian view of the world. The old political conflicts and ideologies get replaced by netocratic state fuelled by a communication revolution. The internet functions as a sensory extension of the human brain.[1-16]

## The Internet-Brain Interaction - Neuropsychiatric Anarchic Disorder

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 behaviour 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 Internet-Brain Interaction and Evolution of Human Language

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-Brain Interaction and Globalisation

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 behaviour, obsessive behaviour, uniformity and creativity. The world of quantal perception leads onto the sacredness of social existence. Collective ritualized behaviour 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 Internet-Brain Interaction - Relation to Quantal Perception and Brain Function

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 behaviour. 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 behaviour. 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 behaviour in society. Terrorism is a ritualized behaviour 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]

# References

[1] Weaver TD, Hublin JJ. Neandertal Birth Canal Shape and the Evolution of Human Childbirth. *Proc. Natl. Acad. Sci. USA* 2009; 106: 8151-8156.

[2] Kurup RA, Kurup PA. Endosymbiotic Actinidic Archaeal Mediated Warburg Phenotype Mediates Human Disease State. *Advances in Natural Science* 2012; 5(1): 81-84.

[3] Morgan E. The Neanderthal theory of autism, Asperger and ADHD; 2007, www.rdos.net/eng/asperger.htm.

[4] Graves P. New Models and Metaphors for the Neanderthal Debate. *Current Anthropology* 1991; 32(5): 513-541.

[5] Sawyer GJ, Maley B. Neanderthal Reconstructed. *The Anatomical Record Part B: The New Anatomist* 2005; 283B(1): 23-31.

[6] Bastir M, O'Higgins P, Rosas A. Facial Ontogeny in Neanderthals and Modern Humans. *Proc. Biol. Sci.* 2007; 274: 1125-1132.

[7] Neubauer S, Gunz P, Hublin JJ. Endocranial Shape Changes during Growth in Chimpanzees and Humans: A Morphometric Analysis of Unique and Shared Aspects. *J. Hum. Evol.* 2010; 59: 555-566.

[8] Courchesne E, Pierce K. Brain Overgrowth in Autism during a Critical Time in Development: Implications for Frontal Pyramidal Neuron and Interneuron Development and Connectivity. *Int. J. Dev. Neurosci*. 2005; 23: 153-170.

[9] Green RE, Krause J, Briggs AW, Maricic T, Stenzel U, Kircher M, Patterson N, Li H, Zhai W, *et al*. A Draft Sequence of the Neandertal Genome. *Science* 2010; 328: 710-722.

[10] Mithen SJ. *The Singing Neanderthals: The Origins of Music, Language, Mind and Body*; 2005, ISBN 0-297-64317-7.

[11] Bruner E, Manzi G, Arsuaga JL. Encephalization and Allometric Trajectories in the Genus Homo: Evidence from the Neandertal and Modern Lineages. *Proc. Natl. Acad. Sci. USA* 2003; 100: 15335-15340.

[12] Gooch S. *The Dream Culture of the Neanderthals: Guardians of the Ancient Wisdom.* Inner Traditions, Wildwood House, London; 2006.

[13] Gooch S. *The Neanderthal Legacy: Reawakening Our Genetic and Cultural Origins.* Inner Traditions, Wildwood House, London; 2008.

[14] Kurtén B. *Den Svarta Tigern*, ALBA Publishing, Stockholm, Sweden; 1978.

[15] Spikins P. Autism, the Integrations of 'Difference' and the Origins of Modern Human Behaviour. *Cambridge Archaeological Journal* 2009; 19(2): 179-201.

[16] Eswaran V, Harpending H, Rogers AR. Genomics Refutes an Exclusively African Origin of Humans. *Journal of Human Evolution* 2005; 49(1): 1-18.

# Chapter 4

## Neanderthal Hybrids: Climate Change Mediated Actinidic Archaeal Endosymbiosis Generates Neanderthal Hybrids and Mind-Body Phenotypic Change - The Origins of Schizophrenia, Autism and Epilepsy - Role of Dietary Fibre

## Introduction

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. Actinidic archaea has been related to global warming and human diseases especially schizophrenia, autism and epilepsy. The growth of endosymbiotic actinidic archaea in relation to climate change and global warming leads to neanderthalisation of the human mind-body system. Neanderthal anthropometry and metabolonomics has been described in schizophrenia, autism and epilepsy especially the Warburg phenotype and hyperdigoxinemia. Digoxin produced by archaeal cholesterol catabolism produces Neanderthalisation. Prefrontal cortical atrophy and cerebellar hyperplasia has been related to schizophrenia, autism and epilepsy in this communication. This leads on to dysautonomia with sympathetic hyperactivity and parasympathetic neuropathy in these disorders. Actinidic archaeal related

cerebellar dominance leads to changes in brain function.[1-16] The data is described in this paper.

## Materials and Methods

Fifteen cases, each of schizophrenia, autism and epilepsy and internet addicts were selected for the study. Each case had an age and sex matched control. Neanderthal anthropometric and phenotypic measurements which included protruding supra-orbital ridges, dolichocephalic skull, small mandible, prominent mid face and nose, short upper and lower limbs, prominent trunk, low index finger-ring finger ratio and fair complexion were evaluated in the cases study. Autonomic function tests were done to assess the sympathetic and parasympathetic system in each case. CT scan of the head was done to have a volumetric assessment of the prefrontal cortex and cerebellum. Blood cytochrome F420 activity was assessed by spectrophotometric measurement.

## Results

All the case groups studied had higher percentage of Neanderthal anthropometric and phenotypic measurements. There was low index finger-ring finger ratio suggestive of high testosterone levels in all the patient population studied. In all the case groups studied, there also was prefrontal cortex atrophy and cerebellar hyperplasia. Similarly in the all the case groups studied, there was dysautonomia with sympathetic overactivity and parasympathetic neuropathy. Cytochrome F420 was detected in the entire case group studied showing endosymbiotic archaeal overgrowth.

***Table 1.*** *Neanderthal phenotype and systemic disease.*

| Disease | Cyt F420 | Neanderthal phenotype | Low index finger-ring finger ratio |
|---|---|---|---|
| Schizophrenia | 69% | 75% | 65% |
| Autism | 80% | 75% | 72% |
| Epilepsy | 80% | 75% | 75% |
| Internet users | 65% | 72% | 69% |

***Table 2.*** *Neanderthal phenotype and brain dysfunction.*

| Disease | Dysautonomia | Prefrontal cortex atrophy | Cerebellar hypertrophy |
|---|---|---|---|
| Schizophrenia | 65% | 60% | 70% |
| Autism | 72% | 69% | 72% |
| Epilepsy | 69% | 74% | 76% |
| Internet users | 74% | 84% | 82% |

# Discussion

## Dietary Fibre Deficiency, Endosymbiotic Archaea and Brain Neanderthalisation - Relation to Autism and Schizophrenia

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth and neanderthalisation of the brain. Neanderthal metabolonomics contribute to the pathogenesis of these disorders. There were Neanderthal phenotypic features in all the case groups studied as well as low index finger-ring finger ratios suggestive of increased testosterone levels. Neanderthalisation of the mind-body system occurs due to increased growth of actinidic archaea as a consequence of global warming. Neanderthalisation of the mind leads to cerebellar dominance and prefrontal cortex atrophy. This leads to dysautonomia with parasympathetic neuropathy and sympathetic hyperactivity.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Low Level EMF Perception and Brain Neanderthalisation - Relation to Autism and Schizophrenia

Global warming and the ice age produces increased growth of extremophiles. This leads to increased growth of actinidic archaeal endosymbiosis in humans. There is archaeal proliferation in the gut which enters the cerebellum and brain stem by reverse axonal transport via the vagus. The cerebellum and brain stem can be considered as an archaeal colony. The archaea are cholesterol catabolising and use cholesterol as a carbon and energy source. The actinidic archaea activates the toll receptor HIF alpha inducing the Warburg phenotype resulting in increased glycolysis with generation of glycine as well as pyruvate dehydrogenase suppression. The accumulated pyruvate enters the GABA shunt generating of succinyl CoA and glycine. The archaeal catabolism of cholesterol produces ring oxidation and generation of pyruvate which also enters the GABA shunt scheme producing glycine and succinyl CoA. This leads to increased synthesis of porphyrins. In the setting of digoxin induced sodium potassium ATPase inhibition the dipolar porphyrins produce a pumped phonon system resulting in the Frohlich model Bose-Einstein condensate and quantal perception of low level EMF. Low level EMF pollution is common with internet usage. Perception of low level of EMF leads to neanderthalisation of the brain with prefrontal cortex atrophy and cerebellar hyperplasia. The archaea which reaches the cerebellum from the gut via the vagus nerve proliferates and makes the cerebellum dominant with resultant suppression and atrophy of the prefrontal cortex. This leads to wide spread autistic and schizophrenic traits in population. The actinidic archaea induces the Warburg phenotype with increased glycolysis, PDH inhibition and mitochondrial suppression. This produces neanderthalisation of the mind-body system. The actinidic archaea secretes RNA viroids which block HERV expression by RNA interference. The

HERV suppression contributes to the inhibition of prefrontal cortex development in Neanderthals and cerebellar dominance. Archaeal digoxin produces sodium potassium ATPase inhibition and magnesium depletion causing reverse transcriptase inhibition and decreased generation of HERV. The HERV contributes to the dynamicity of the genome and are required for the development of the prefrontal cortex. The HERV suppression contributes to retroviral resistance in Neanderthals. The actinidic archaea catabolises cholesterol leading to cholesterol depleted state. Cholesterol depletion also leads to poor synaptic connectivity and decreased development of prefrontal cortex. This is not genetic change but a form of symbiotic change with endosymbiotic actinidic archaeal growth in the body and brain.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Internet Use, Low Level EMF Perception and Brain Neanderthalisation - Relation to Autism and Schizophrenia

Internet use and low level EMF pollution is common in this century. This results in increased low level EMF perception by the brain by the digoxin-porphyrin mediated pumped phonon system created Bose-Einstein condensates contributing to prefrontal cortex atrophy and cerebellar dominance. Cerebellar dominance leads to schizophrenia and autism. There is an epidemic of autism and schizophrenia in the present day community. The porphyrin mediated extrasensory perception can contribute to communication among Neanderthals. Neanderthals did not have a language and used extrasensory perception as a form of group communication. Because of dominant extrasensory quantal perception, the Neanderthals did not have individual identity but only group identity. Cerebellar dominance results in creativity consequent to quantal perception and group perception. The Neanderthalic traits contribute to innovation and creativity. Cerebellar dominance results in development of a symbolic language. The

Neanderthals used dance and music as a form of communication. Painting as a form of communication was also common in Neanderthals. Neanderthal behaviour was robotic. Robotic behaviour is characteristic of cerebellar dominance. Robotic, symbolic and ritualistic behaviour is common with cerebellar dominance and is seen in autistic traits. The cerebellar dominance in Neanderthals leads to intuitive intelligence and a hypnotic quality to communication. The increased extrasensory quantal perception leads to more communion with nature and a form of eco-spirituality. The increasing use of dance and music as a form of communication and eco-spirituality is common in the modern century along with increased incidence of autism. The cholesterol depletion leads to bile acid deficiency and generation of small social groups in Neanderthals. Bile acid binds to olfactory receptors and contributes to group identity. This can also contributes to the generation of autistic and schizophrenic features in Neanderthals. This also contributes to epileptogenesis.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Brain Neanderthalisation and Quantal Perception - Relation to Autism and Schizophrenia

The Neanderthal population was predominantly autistic and schizophrenic. The modern population is a hybrid of homo sapiens and homo neanderthalis. This contributes to 10 to 20% dominant hybrids who tend to have schizophrenic and autistic qualities and contributes to creativity of civilisation. The Neanderthals tend to be innovative and chaotic. They tend to be creative in art, literature, dance, spirituality and science. Eighty per cent of less dominant hybrids are stable and contribute to a stabilizing influence leading to growth of civilisation. The homo sapiens were stable and non-creative over a long period of their existence. There was a burst of creativity with generation of music, dance, painting, ornaments, the creation of concept of God and compassionate group behaviour around

10,000 years ago in the homo sapiens community. This correlated with the generation of Neanderthal hybrids when the Eurasian Neanderthal male mated with homo sapiens African females. The extrasensory/quantal perception due to dipolar porphyrins and digoxin induced sodium potassium ATPase inhibition and the generated pumped phonon system mediated quantal perception leads to the globalisation phenomena and feeling of the world being a global village. The archaeal cholesterol catabolism leads to increased synthesis of digoxin. Digoxin promotes tryptophan transport over tyrosine. Tyrosine deficiency leads to dopamine deficiency and morphine deficiency. This leads to a morphine deficiency syndrome in Neanderthals. This contributes to addiction traits and creativity. The increased tryptophan levels produce increased alkaloids like LSD contributing to ecstasy and spirituality of Neanderthal population. Addictive, ADHD and autistic features are related to the morphine deficiency state. The ketogenic diet consumed by the meat eating Neanderthals leads on to increased generation of hydroxy butyric acid which produces ecstasy and a dissociative type of anaesthesia contributing to the Neanderthal psychology. The dopamine deficiency leads to decreased melanin synthesis and fairness of the population. This was responsible for the fair colour of the Neanderthals.

## Dietary Fibre Deficiency, Endosymbiotic Archaea and Warburg Phenotype - Relation to Autism and Schizophrenia

The Neanderthals were essentially meat eaters taking a ketogenic diet. The acetoacetic acid is converted to acetyl CoA which enters the TCA cycle. When the Neanderthal hybrids consume a glucogenic diet owing to the spread of settled civilisation it produces pyruvate accumulation owing to PDH suppression in Neanderthals. The increased archaeal growth activates the toll receptor and induces HIF alpha resulting in increased glycolysis, PDH suppression and mitochondrial dysfunction-the Warburg phenotype. The

pyruvate enters the GABA shunt pathway producing glutamate, ammonia and porphyrins resulting in neuropathology of autism and schizophrenia. Neanderthals consuming a ketogenic diet produces more of GABA an inhibitory neurotransmitter resulting in the docile quiet nature of the Neanderthals. There is less production of glutamate the predominant excitatory neurotransmitter of the prefrontal cortex and consciousness pathways. This leads onto dominance of cerebellar function. The Neanderthal hybrids have cerebellar dominance and less of conscious behaviour. Cerebellum is responsible for intuitive, unconscious behaviour as well as creativity and spirituality. The cerebellum is the site of extrasensory perception, magical acts and hypnosis. The predominant homo sapiens had prefrontal cortex dominance over the cerebellum resulting in more of conscious behaviour. This leads onto the ontogenesis of schizophrenia, autism and epilepsy.

The Neanderthals consuming a glucogenic diet produces increased glycolysis in the setting of PDH inhibition. This produces the Warburg phenotype. There is increased lymphocytic glycolysis producing autoimmune diseases and immune activation. The increased levels of GAPD result in nuclear cell death and neurodegeneration. The predominance of glycolysis and suppression of mitochondrial function results in glycemia and metabolic syndrome X. The increased mitochondrial PT pore hexokinase leads to cell proliferation and oncogenesis. The glycolytic intermediate 3-phosphoglycerate is converted to glycine resulting in NMDA excitotoxicity contributing to schizophrenia and autism. Cerebellar dominance is reported in schizophrenia, autism and epilepsy.

## Dietary Fibre Deficiency, Endosymbiotic Archaea and Cerebellar Dominance - Relation to Autism and Schizophrenia

The cerebellar hyperplasia results in sympathetic hyperactivity and parasympathetic neuropathy. This contributes to oncogene activation. Vagal neuropathy results in immune activation and autoimmunity important in schizophrenia, autism and epilepsy. Vagal neuropathy and sympathetic overactivity can contribute to glycogenolysis and lipolysis resulting in insulin resistance. Insulin resistance leads to schizophrenia, autism and epilepsy. Cerebellar dominance and cerebellar cognitive affective dysfunction can contribute to schizophrenia and autism. The increased porphyrin synthesis resulting from succinyl CoA generated by GABA shunt and glycine generated by glycolysis contributes to increased extrasensory perception important in schizophrenia and autism. Sympathetic overactivity and parasympathetic neuropathy can contribute to schizophrenia, autism and epilepsy.

## Dietary Fibre Deficiency, Endosymbiotic Archaea and Hyperdigoxinemia - Relation to Autism and Schizophrenia

The archaeal cholesterol catabolism generates digoxin which produces sodium potassium ATPase inhibition and increase in intracellular calcium and decrease in intracellular magnesium. The increase in intracellular calcium produces oncogene activation and NFKB activation resulting in schizophrenia, autism and epilepsy. The increase in intracellular calcium opens the mitochondrial PT pore resulting in cell death of schizophrenia, autism and epilepsy. The increase in intracellular calcium can modulate the neurotransmitter release from presynaptic vesicles. This can modulate neurotransmission. Digoxin induced magnesium depletion can remove the magnesium block on the NMDA receptor resulting in NMDA excitotoxicity. Digoxin can modulate the glutamatergic thalamo-cortico-thalamic pathway and consciousness resulting in schizophrenia, autism and epilepsy.

Digoxin induced magnesium depletion can inhibit reverse transcriptase activity and HERV generation modulating the dynamicity of the genome. HERV expression has been related to schizophrenia, autism and epilepsy. Digoxin induced intracellular calcium accumulation and magnesium depletion can modulate G-protein and protein tyrosine kinase dependent neurotransmitter and endocrine receptors. This can produce digoxin induced neuro-immuno-endocrine integration. The dysfunction of this integrative phenomenon can lead to schizophrenia, autism and epilepsy. Digoxin functions as a Neanderthal master hormone.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Sex Hormone Dysfunction and Brain Neanderthalisation - Relation to Autism and Schizophrenia

The actinidic archaea are cholesterol catabolising and leads to low levels of testosterone and estrogen. This leads on to asexual features and low reproductive rates of the Neanderthal population. The Neanderthals consume a low fibre diet with low lignan content. The actinidic archaea has cholesterol catabolising enzymes generating more of testosterone than estrogens. This contributes to estrogen deficiency and testosterone overactivity. The Neanderthal population is hypermales with concomitant right hemispheric dominance and cerebellar dominance. Testosterone suppresses left hemispheric function. The high testosterone levels in Neanderthals contribute to a bigger brain. The Neanderthals males as well as females had a higher level of testosterone contributing to gender equality and gender neutral states. There was group identity and group motherhood with no differences between roles of both males and females. This also resulted in matrilinearity. The higher testosterone levels in males as well as females led to alternate type of sexuality and aberrant behaviour. The homo sapiens eat a high fibre diet with low cholesterol and high lignan content

contributing to estrogen dominance, left hemispheric dominance and cerebellar hypoplasia. Homo sapiens had higher reproductive rates and overtook the Neanderthal population resulting in its extinction. The homo sapien population was conservative with normal sexual mores, family values and patriarchal type of behaviour. The role of females the homo sapien community was inferior to males. The increasing generation of Neanderthal hybrids due to climate change mediated archaeal overgrowth leads to gender equality and equidominance of male and female in this century. This gender phenomenon can lead onto the ontogenesis of schizophrenia, autism and epilepsy.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Cholesterol Catabolism and Bile Acid/Vitamin D Deficiency - Relation to Autism and Schizophrenia

The cholesterol catabolism results in cholesterol depletion and bile acid deficiency. Bile acids bind to VDR and are immunomodulatory. Bile acid deficiency leads to immune activation and autoimmunity in schizophrenia, autism and epilepsy. Bile acids bind to FXR, LXR and PXR modulating lipid and carbohydrate metabolism. This leads to insulin resistance in the presence of bile acid deficiency. Bile acid uncouples oxidative phosphorylation and its deficiency leads to insulin resistance. Insulin resistance is important in schizophrenia, autism and epilepsy. Schizophrenia is called as an insulin resistance state of the brain. Bile acids bind to olfactory receptors and are important in group identity. Bile acid deficiency leads to formation of small social groups in Neanderthals and genesis of autism. Cholesterol depletion also leads to vitamin D deficiency. Vitamin D binds to VDR and produces immunomodulation. Vitamin D deficiency leads to immune activation and autoimmunity in schizophrenia, autism and epilepsy. Vitamin D deficiency can also produce rickets and contribute to the phenotypic features of Neanderthals.

Vitamin D deficiency can contribute to brain development resulting in macrocephaly. Vitamin D deficiency contributes to insulin resistance and truncal obesity of Neanderthals. Vitamin D deficiency contributes to the fairness of the Neanderthal skin as a phenotypic adaptation. The Neanderthal phenotypic features are due to vitamin D deficiency and insulin resistance. All these lead to schizophrenia, autism and epilepsy.

Thus global warming and increased endosymbiotic actinidic archaeal growth leads to cholesterol catabolism and generation of the Warburg phenotype resulting in increased porphyrin synthesis, extrasensory low EMF perception, prefrontal cortex atrophy, insulin resistance and cerebellar dominance. This leads on to neanderthalisation of the body and brain. This phenomenon leads to the ontogenesis of schizophrenia, autism and epilepsy.

## References

[1] Weaver TD, Hublin JJ. Neandertal Birth Canal Shape and the Evolution of Human Childbirth. *Proc. Natl. Acad. Sci. USA* 2009; 106: 8151-8156.

[2] Kurup RA, Kurup PA. Endosymbiotic Actinidic Archaeal Mediated Warburg Phenotype Mediates Human Disease State. *Advances in Natural Science* 2012; 5(1): 81-84.

[3] Morgan E. The Neanderthal theory of autism, Asperger and ADHD; 2007, www.rdos.net/eng/asperger.htm.

[4] Graves P. New Models and Metaphors for the Neanderthal Debate. *Current Anthropology* 1991; 32(5): 513-541.

[5] Sawyer GJ, Maley B. Neanderthal Reconstructed. *The Anatomical Record Part B: The New Anatomist* 2005; 283B(1): 23-31.

[6] Bastir M, O'Higgins P, Rosas A. Facial Ontogeny in Neanderthals and Modern Humans. *Proc. Biol. Sci.* 2007; 274: 1125-1132.

[7] Neubauer S, Gunz P, Hublin JJ. Endocranial Shape Changes during Growth in Chimpanzees and Humans: A Morphometric Analysis of Unique and Shared Aspects. *J. Hum. Evol.* 2010; 59: 555-566.

[8] Courchesne E, Pierce K. Brain Overgrowth in Autism during a Critical Time in Development: Implications for Frontal Pyramidal Neuron and Interneuron Development and Connectivity. *Int. J. Dev. Neurosci.* 2005; 23: 153-170.

[9] Green RE, Krause J, Briggs AW, Maricic T, Stenzel U, Kircher M, Patterson N, Li H, Zhai W, *et al*. A Draft Sequence of the Neandertal Genome. *Science* 2010; 328: 710-722.

[10] Mithen SJ. *The Singing Neanderthals: The Origins of Music, Language, Mind and Body*; 2005, ISBN 0-297-64317-7.

[11] Bruner E, Manzi G, Arsuaga JL. Encephalization and Allometric Trajectories in the Genus Homo: Evidence from the Neandertal and Modern Lineages. *Proc. Natl. Acad. Sci. USA* 2003; 100: 15335-15340.

[12] Gooch S. *The Dream Culture of the Neanderthals: Guardians of the Ancient Wisdom.* Inner Traditions, Wildwood House, London; 2006.

[13] Gooch S. *The Neanderthal Legacy: Reawakening Our Genetic and Cultural Origins.* Inner Traditions, Wildwood House, London; 2008.

[14] Kurtén B. *Den Svarta Tigern*, ALBA Publishing, Stockholm, Sweden; 1978.

[15] Spikins P. Autism, the Integrations of 'Difference' and the Origins of Modern Human Behaviour. *Cambridge Archaeological Journal* 2009; 19(2): 179-201.

[16] Eswaran V, Harpending H, Rogers AR. Genomics Refutes an Exclusively African Origin of Humans. *Journal of Human Evolution* 2005; 49(1): 1-18.

# Chapter 5

## Archaeal Modulated Mirror Quantal Perceptive Neurons Mediate Consciousness and Functions as Quantal Observer - Role of Dietary Fibre

## Introduction

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. 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 and, (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 | | 130.054 | |
| P value | < 0.001 | | < 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 | 135.116 | | 71.706 | |
| P value | < 0.001 | | < 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 | 372.716 | | 556.411 | |
| P value | < 0.001 | | < 0.001 | |

# Discussion

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Hyperdigoxinemia, Quantal Perception and Brain Function

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. 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 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Actinidic Archaeal Mirror Neurons, Quantal Perception and Brain Function

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 observation. 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Quantal Perception and Neuropsychiatric Disorders

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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Quantal Perception and Neuropsychiatric Disorders

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 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. 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 photo-oxidation are involved in sensing of earth magnetic fields and low level biomagnetic fields. Thus prophyrins 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.

## References

[1] Weaver TD, Hublin JJ. Neandertal Birth Canal Shape and the Evolution of Human Childbirth. *Proc. Natl. Acad. Sci. USA* 2009; 106: 8151-8156.

[2] Kurup RA, Kurup PA. Endosymbiotic Actinidic Archaeal Mediated Warburg Phenotype Mediates Human Disease State. *Advances in Natural Science* 2012; 5(1): 81-84.

[3] Morgan E. The Neanderthal theory of autism, Asperger and ADHD; 2007, www.rdos.net/eng/asperger.htm.

[4] Graves P. New Models and Metaphors for the Neanderthal Debate. *Current Anthropology* 1991; 32(5): 513-541.

[5] Sawyer GJ, Maley B. Neanderthal Reconstructed. The Anatomical Record Part B: The New Anatomist 2005; 283B(1): 23-31.

[6] Bastir M, O'Higgins P, Rosas A. Facial Ontogeny in Neanderthals and Modern Humans. *Proc. Biol. Sci.* 2007; 274: 1125-1132.

[7] Neubauer S, Gunz P, Hublin JJ. Endocranial Shape Changes during Growth in Chimpanzees and Humans: A Morphometric Analysis of Unique and Shared Aspects. *J. Hum. Evol.* 2010; 59: 555-566.

[8] Courchesne E, Pierce K. Brain Overgrowth in Autism during a Critical Time in Development: Implications for Frontal Pyramidal Neuron and Interneuron Development and Connectivity. *Int. J. Dev. Neurosci.* 2005; 23: 153-170.

[9] Green RE, Krause J, Briggs AW, Maricic T, Stenzel U, Kircher M, Patterson N, Li H, Zhai W, *et al*. A Draft Sequence of the Neandertal Genome. *Science* 2010; 328: 710-722.

[10] Mithen SJ. *The Singing Neanderthals: The Origins of Music, Language, Mind and Body*; 2005, ISBN 0-297-64317-7.

[11] Bruner E, Manzi G, Arsuaga JL. Encephalization and Allometric Trajectories in the Genus Homo: Evidence from the Neandertal and Modern Lineages. *Proc. Natl. Acad. Sci. USA* 2003; 100: 15335-15340.

[12] Gooch S. *The Dream Culture of the Neanderthals: Guardians of the Ancient Wisdom.* Inner Traditions, Wildwood House, London; 2006.

[13] Gooch S. *The Neanderthal Legacy: Reawakening Our Genetic and Cultural Origins.* Inner Traditions, Wildwood House, London; 2008.

[14] Kurtén B. *Den Svarta Tigern*, ALBA Publishing, Stockholm, Sweden; 1978.

[15] Spikins P. Autism, the Integrations of 'Difference' and the Origins of Modern Human Behaviour. *Cambridge Archaeological Journal* 2009; 19(2): 179-201.

[16] Eswaran V, Harpending H, Rogers AR. Genomics Refutes an Exclusively African Origin of Humans. *Journal of Human Evolution* 2005; 49(1): 1-18.

[17] Ramachandran V. S. The Reith lectures, BBC London. 2012.

# Chapter 6

## Porphyrions, Neoneanderthalisation and Human Disease - The Origins of Cancer, Autoimmune Disease, Neurodegeneration, Metabolic Syndrome X and Schizophrenia/Autism

## Introduction

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

Actinidic archaea has been related to global warming and human diseases especially autoimmune disease, neurodegeneration, neuropsychiatric disorder, neoplasm and metabolic syndrome X. The growth of endosymbiotic actinidic archaea in relation to climate change and global warming leads to neanderthalisation of the human mind-body system. Stress mediated heme oxygenase induction and heme depletion can induce porphyrin synthesis. The porphyrions are self replicating supramolecular organisms which forms the precursor template on which the viroids, prions and nanoarchaea originate. Stress induced template directed abiogenesis of porphyrions, prions, viroids and archaea is a continuous process and can contribute to changes in brain structure and behavior as well as disease process. Neanderthal anthropometry and metabolonomics has been described in autoimmune disease, neurodegeneration,

neuropsychiatric disorder, neoplasm and metabolic syndrome X especially the Warburg phenotype and hyperdigoxinemia. Digoxin produced by archaeal cholesterol catabolism produces Neanderthalisation. Prefrontal cortical atrophy and cerebellar hyperplasia has been related to autoimmune disease, neurodegeneration, neuropsychiatric disorder, neoplasm and metabolic syndrome X in this communication. This leads on to dysautonomia with sympathetic hyperactivity and parasympathetic neuropathy in these disorders. Actinidic archaeal related cerebellar dominance leads to changes in brain function.[1-16] The data is described in this paper.

## Materials and Methods

Fifteen cases, each of autoimmune disease, neurodegeneration, neuropsychiatric disorder, neoplasm, metabolic syndrome X and internet addicts were selected for the study. Each case had an age and sex matched control. Neanderthal anthropometric and phenotypic measurements which included protruding supra-orbital ridges, dolichocephalic skull, small mandible, prominent mid face and nose, short upper and lower limbs, prominent trunk, low index finger-ring finger ratio and fair complexion were evaluated in the cases study. Autonomic function tests were done to assess the sympathetic and parasympathetic system in each case. CT scan of the head was done to have a volumetric assessment of the prefrontal cortex and cerebellum. Blood cytochrome F420 activity was assessed by spectrophotometric measurement.

## Results

All the case groups studied had higher percentage of Neanderthal anthropometric and phenotypic measurements. There was low index finger-ring finger ratio suggestive of high testosterone levels in all the patient population studied. In all the case groups studied, there also was prefrontal cortex atrophy

and cerebellar hyperplasia. Similarly in the all the case groups studied, there was dysautonomia with sympathetic overactivity and parasympathetic neuropathy. Cytochrome F420 was detected in the entire case group studied showing endosymbiotic archaeal overgrowth.

***Table 1.*** *Neanderthal phenotype and systemic disease.*

| Disease | Cyt F420 | Neanderthal phenotype | Low index finger-ring finger ratio |
|---|---|---|---|
| Schizophrenia | 69% | 75% | 65% |
| Autism | 80% | 75% | 72% |
| Alzheimer's disease | 89% | 65% | 75% |
| Parkinson's disease | 70% | 71% | 80% |
| Non-Hodgkin's lymphoma | 72% | 60% | 69% |
| Multiple myeloma | 70% | 68% | 74% |
| Diabetes mellitus with stroke and CAD | 65% | 72% | 72% |
| SLE/Lupus | 75% | 85% | 74% |
| Multiple sclerosis | 80% | 75% | 75% |
| Internet users | 65% | 72% | 69% |

***Table 2.*** *Neanderthal phenotype and brain dysfunction.*

| Disease | Dysautonomia | Prefrontal cortex atrophy | Cerebellar hypertrophy |
|---|---|---|---|
| Schizophrenia | 65% | 60% | 70% |
| Autism | 72% | 69% | 72% |
| Alzheimer's disease | 60% | 72% | 60% |
| Parkinson's disease | 62% | 71% | 68% |
| Non-Hodgkin's lymphoma | 79% | 65% | 75% |
| Multiple myeloma | 69% | 72% | 80% |
| Diabetes mellitus with stroke and CAD | 64% | 84% | 69% |
| SLE/Lupus | 75% | 73% | 72% |
| Multiple sclerosis | 69% | 74% | 76% |
| Internet users | 74% | 84% | 82% |

# Discussion

## Dietary Fibre Deficiency, Archaeal Endosymbiosis and Perception of Low Level EMF Fields in Internet Addicts - Neurological and Metabolonomic Neanderthalisation

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance.

Neanderthal metabolonomics contribute to the pathogenesis of these disorders. There were Neanderthal phenotypic features in all the case groups studied as well as low index finger-ring finger ratios suggestive of increased testosterone levels. Neanderthalisation of the mind-body system occurs due to increased growth of actinidic archaea as a consequence of global warming. Neanderthalisation of the mind leads to cerebellar dominance and prefrontal cortex atrophy. This leads to dysautonomia with parasympathetic neuropathy and sympathetic hyperactivity.

## The Internet Addiction, Low Level EMF Fields, Archaeal Endosymbiosis and Cerebellar Dominant Brain

Global warming and the ice age produces increased growth of extremophiles. This leads to increased growth of actinidic archaeal endosymbiosis in humans. Stress mediated heme oxygenase induction and heme depletion can induce porphyrin synthesis. The porphyrions are self replicating supramolecular organisms which forms the precursor template on which the viroids, prions and nanoarchaea originate. Stress induced template directed abiogenesis of porphyrions, prions, viroids and archaea is a continuous process and can contribute to changes in brain structure and behaviour as well as disease process. There is archaeal proliferation in the gut which enters the cerebellum and brain stem by reverse axonal transport via the vagus. The cerebellum and brain stem can be considered as an archaeal colony. The archaea are cholesterol catabolising and use cholesterol as a carbon and energy source. The actinidic archaea activates the toll receptor HIF alpha inducing the Warburg phenotype resulting in increased glycolysis with generation of glycine as well as pyruvate dehydrogenase suppression. The accumulated pyruvate enters the GABA shunt generating of succinyl CoA and glycine. The archaeal catabolism of cholesterol produces ring oxidation and generation of pyruvate which also enters the GABA shunt scheme producing glycine and succinyl CoA. This leads to increased synthesis of porphyrins. In the setting of digoxin induced sodium potassium ATPase inhibition the dipolar porphyrins produce a pumped phonon system resulting in the frohlich model Bose-Einstein condensate and quantal perception of low level EMF. Low level EMF pollution is common with internet usage. Perception of low level of EMF leads to neanderthalisation of the brain with prefrontal cortex atrophy and cerebellar hyperplasia. The archaea which reaches the cerebellum from the gut via the vagus nerve proliferates and makes the cerebellum dominant with resultant suppression and atrophy of the

prefrontal cortex. This leads to wide spread autistic and schizophrenic traits in population. The actinidic archaea induces the Warburg phenotype with increased glycolysis, PDH inhibition and mitochondrial suppression. This produces neanderthalisation of the mind-body system. The actinidic archaea secretes RNA viroids which block HERV expression by RNA interference. The HERV suppression contributes to the inhibition of prefrontal cortex development in Neanderthals and cerebellar dominance. Archaeal digoxin produces sodium potassium ATPase inhibition and magnesium depletion causing reverse transcriptase inhibition and decreased generation of HERV. The HERV contributes to the dynamicity of the genome and are required for the development of the prefrontal cortex. The HERV suppression contributes to retroviral resistance in Neanderthals. The actinidic archaea catabolises cholesterol leading to cholesterol depleted state. Cholesterol depletion also leads to poor synaptic connectivity and decreased development of prefrontal cortex. This is not genetic change but a form of symbiotic change with endosymbiotic actinidic archaeal growth in the body and brain.

## Internet Use, Archaeal Endosymbiosis, Brain Neanderthalisation and Socio-Cultural Change

Internet use and low level EMF pollution is common in this century. This results in increased low level EMF perception by the brain by the digoxin-porphyrin mediated pumped phonon system created Bose-Einstein condensates contributing to prefrontal cortex atrophy and cerebellar dominance. Cerebellar dominance leads to schizophrenia and autism. There is an epidemic of autism and schizophrenia in the present day community. The porphyrin mediated extrasensory perception can contribute to communication among Neanderthals. Neanderthals did not have a language and used extrasensory perception as a form of group communication. Because of dominant

extrasensory quantal perception, the Neanderthals did not have individual identity but only group identity. Cerebellar dominance results in creativity consequent to quantal perception and group perception. The Neanderthalic traits contribute to innovation and creativity. Cerebellar dominance results in development of a symbolic language. The Neanderthals used dance and music as a form of communication. Painting as a form of communication was also common in Neanderthals. Neanderthal behaviour was robotic. Robotic behaviour is characteristic of cerebellar dominance. Robotic, symbolic and ritualistic behaviour is common with cerebellar dominance and is seen in autistic traits. The cerebellar dominance in Neanderthals leads to intuitive intelligence and a hypnotic quality to communication. The increased extrasensory quantal perception leads to more communion with nature and a form of eco-spirituality. The increasing use of dance and music as a form of communication and eco-spirituality is common in the modern century along with increased incidence of autism. The cholesterol depletion leads to bile acid deficiency and generation of small social groups in Neanderthals. Bile acid binds to olfactory receptors and contributes to group identity. This can also contributes to the generation of autistic features in Neanderthals.

The Neanderthal population was predominantly autistic and schizophrenic. The modern population is a hybrid of Homo sapiens and Homo neanderthalis. This contributes to 10 to 20% dominant hybrids who tend to have schizophrenic and autistic qualities and contributes to creativity of civilisation. The Neanderthals tend to be innovative and chaotic. They tend to be creative in art, literature, dance, spirituality and science. Eighty per cent of less dominant hybrids are stable and contribute to a stabilizing influence leading to growth of civilisation. The homo sapiens were stable and non-creative over a long period of their existence. There was a burst of creativity with generation of music, dance, painting, ornaments, the creation of concept of God and compassionate group behaviour around

10,000 years ago in the homo sapiens community. This correlated with the generation of Neanderthal hybrids when the Eurasian Neanderthal male mated with homo sapiens African females. The extrasensory/quantal perception due to dipolar porphyrins and digoxin induced sodium potassium ATPase inhibition and the generated pumped phonon system mediated quantal perception leads to the globalisation phenomena and feeling of the world being a global village. The archaeal cholesterol catabolism leads to increased synthesis of digoxin. Digoxin promotes tryptophan transport over tyrosine. Tyrosine deficiency leads to dopamine deficiency and morphine deficiency. This leads to a morphine deficiency syndrome in Neanderthals. This contributes to addiction traits and creativity. The increased tryptophan levels produce increased alkaloids like LSD contributing to ecstasy and spirituality of Neanderthal population. Addictive, ADHD and autistic features are related to the morphine deficiency state. The ketogenic diet consumed by the meat eating Neanderthals leads on to increased generation of hydroxy butyric acid which produces ecstasy and a dissociative type of anaesthesia contributing to the Neanderthal psychology. The dopamine deficiency leads to decreased melanin synthesis and fairness of the population. This was responsible for the fair colour of the Neanderthals.

The Neanderthals were essentially meat eaters taking a ketogenic diet. The acetoacetic acid is converted to acetyl CoA which enters the TCA cycle. When the Neanderthal hybrids consume a glucogenic diet owing to the spread of settled civilisation it produces pyruvate accumulation owing to PDH suppression in Neanderthals. The increased archaeal growth activates the toll receptor and induces HIF alpha resulting in increased glycolysis, PDH suppression and mitochondrial dysfunction-the Warburg phenotype. The pyruvate enters the GABA shunt pathway producing glutamate, ammonia and porphyrins resulting in neuropathology of autism and schizophrenia. Neanderthals consuming a ketogenic diet produces more of GABA an

inhibitory neurotransmitter resulting in the docile quiet nature of the Neanderthals. There is less production of glutamate the predominant excitatory neurotransmitter of the prefrontal cortex and consciousness pathways. This leads onto dominance of cerebellar function. The Neanderthal hybrids have cerebellar dominance and less of conscious behaviour. Cerebellum is responsible for intuitive, unconscious behaviour as well as creativity and spirituality. The cerebellum is the site of extrasensory perception, magical acts and hypnosis. The predominant homo sapiens had prefrontal cortex dominance over the cerebellum resulting in more of conscious behaviour.

## Internet Addiction, Archaeal Endosymbiosis and Human Pathology

The Neanderthals consuming a glucogenic diet produces increased glycolysis in the setting of PDH inhibition. This produces the Warburg phenotype. There is increased lymphocytic glycolysis producing autoimmune diseases and immune activation. The increased levels of GAPD result in nuclear cell death and neurodegeneration. The predominance of glycolysis and suppression of mitochondrial function results in glycemia and metabolic syndrome X. The increased mitochondrial PT pore hexokinase leads to cell proliferation and oncogenesis. The glycolytic intermediate 3-phosphoglycerate is converted to glycine resulting in NMDA excitotoxicity contributing to schizophrenia and autism. Cerebellar dominance is reported in schizophrenia and autism.

The cerebellar hyperplasia results in sympathetic hyperactivity and parasympathetic neuropathy. This contributes to cell proliferation and oncogenesis. Vagal neuropathy results in immune activation and autoimmune disease. Vagal neuropathy and sympathetic overactivity can contribute to glycogenolysis and lipolysis resulting in metabolic syndrome X. Cerebellar dominance and cerebellar cognitive affective dysfunction can contribute to

schizophrenia and autism. The increased porphyrin synthesis resulting from succinyl CoA generated by GABA shunt and glycine generated by glycolysis contributes to increased extrasensory perception important in schizophrenia and autism. Sympathetic overactivity and parasympathetic neuropathy can contribute to neurodegeneration.

## Internet Addiction, Archaeal Endosymbiosis and Hyperdigoxinemia

The archaeal cholesterol catabolism generates digoxin which produces sodium potassium ATPase inhibition and increase in intracellular calcium and decrease in intracellular magnesium. The increase in intracellular calcium produces oncogene activation and NFKB activation resulting in malignancies and autoimmune diseases. The increase in intracellular calcium opens the mitochondrial PT pore resulting in cell death and neurodegeneration. The increase in intracellular calcium can modulate the neurotransmitter release from presynaptic vesicles. This can modulate neurotransmission. Digoxin induced magnesium depletion can remove the magnesium block on the NMDA receptor resulting in NMDA excitotoxicity. Digoxin can modulate the glutamatergic thalamo-cortico-thalamic pathway and consciousness resulting in schizophrenia and autism. Digoxin induced magnesium depletion can inhibit reverse transcriptase activity and HERV generation modulating the dynamicity of the genome. Digoxin induced intracellular calcium accumulation and magnesium depletion can modulate G-protein and protein tyrosine kinase dependent neurotransmitter and endocrine receptors. This can produce digoxin induced neuro-immuno-endocrine integration. Digoxin functions as a Neanderthal master hormone.

## Internet Addiction, Archaeal Endosymbiosis and Sexual Identity

The actinidic archaea are cholesterol catabolising and leads to low levels of testosterone and estrogen. This leads on to asexual features and low

reproductive rates of the Neanderthal population. The Neanderthals consume a low fibre diet with low lignan content. The actinidic archaea has cholesterol catabolising enzymes generating more of testosterone than estrogens. This contributes to estrogen deficiency and testosterone overactivity. The Neanderthal populations are hypermales with concomitant right hemispheric dominance and cerebellar dominance. Testosterone suppresses left hemispheric function. The high testosterone levels in Neanderthals contribute to a bigger brain. The Neanderthals males as well as females had a higher level of testosterone contributing to gender equality and gender neutral states. There was group identity and group motherhood with no differences between roles of both males and females. This also resulted in matrilinearity. The higher testosterone levels in males as well as females led to alternate type of sexuality and aberrant behaviour. The homo sapiens eat a high fibre diet with low cholesterol and high lignan content contributing to estrogen dominance, left hemispheric dominance and cerebellar hypoplasia. Homo sapiens had higher reproductive rates and overtook the Neanderthal population resulting in its extinction. The homo sapien population was conservative with normal sexual mores, family values and patriarchal type of behaviour. The role of females the homo sapien community was inferior to males. The increasing generation of Neanderthal hybrids due to climate change mediated archaeal overgrowth leads to gender equality and equidominance of male and female in this century.

## Internet Addiction, Archaeal Endosymbiosis, Cholesterol Catabolism and Brain/Systemic Disease

The cholesterol catabolism results in cholesterol depletion and bile acid deficiency. Bile acids bind to VDR and are immunomodulatory. Bile acid deficiency leads to immune activation and autoimmune disease. Bile acids bind to FXR, LXR and PXR modulating lipid and carbohydrate metabolism. This

leads to metabolic syndrome X in the presence of bile acid deficiency. Bile acid uncouples oxidative phosphorylation and its deficiency leads to obesity of metabolic syndrome X. Bile acids bind to olfactory receptors and are important in group identity. Bile acid deficiency leads to formation of small social groups in Neanderthals and genesis of autism. Cholesterol depletion also leads to vitamin D deficiency. Vitamin D binds to VDR and produces immunomodulation. Vitamin D deficiency leads to immune activation and autoimmune diseases. Vitamin D deficiency can also produce rickets and contribute to the phenotypic features of Neanderthals. Vitamin D deficiency can contribute to brain development resulting in macrocephaly. Vitamin D deficiency contributes to insulin resistance and truncal obesity of Neanderthals. Vitamin D deficiency contributes to the fairness of the Neanderthal skin as a phenotypic adaptation. The Neanderthal phenotypic features are due to vitamin D deficiency and insulin resistance.

Thus global warming and increased endosymbiotic actinidic archaeal growth leads to cholesterol catabolism and generation of the Warburg phenotype resulting in increased porphyrin synthesis, extrasensory low EMF perception, prefrontal cortex atrophy, insulin resistance and cerebellar dominance. This leads on to neanderthalisation of the body and brain.

## References

[1] Weaver TD, Hublin JJ. Neandertal Birth Canal Shape and the Evolution of Human Childbirth. *Proc. Natl. Acad. Sci. USA* 2009; 106: 8151-8156.

[2] Kurup RA, Kurup PA. Endosymbiotic Actinidic Archaeal Mediated Warburg Phenotype Mediates Human Disease State. *Advances in Natural Science* 2012; 5(1): 81-84.

[3] Morgan E. The Neanderthal theory of autism, Asperger and ADHD; 2007, www.rdos.net/eng/asperger.htm.

[4] Graves P. New Models and Metaphors for the Neanderthal Debate. *Current Anthropology* 1991; 32(5): 513-541.

[5] Sawyer GJ, Maley B. Neanderthal Reconstructed. The Anatomical Record Part B: *The New Anatomist* 2005; 283B(1): 23-31.

[6] Bastir M, O'Higgins P, Rosas A. Facial Ontogeny in Neanderthals and Modern Humans. *Proc. Biol. Sci.* 2007; 274: 1125-1132.

[7] Neubauer S, Gunz P, Hublin JJ. Endocranial Shape Changes during Growth in Chimpanzees and Humans: A Morphometric Analysis of Unique and Shared Aspects. *J. Hum. Evol.* 2010; 59: 555-566.

[8] Courchesne E, Pierce K. Brain Overgrowth in Autism during a Critical Time in Development: Implications for Frontal Pyramidal Neuron and Interneuron Development and Connectivity. *Int. J. Dev. Neurosci.* 2005; 23: 153-170.

[9] Green RE, Krause J, Briggs AW, Maricic T, Stenzel U, Kircher M, Patterson N, Li H, Zhai W, *et al*. A Draft Sequence of the Neandertal Genome. *Science* 2010; 328: 710-722.

[10] Mithen SJ. *The Singing Neanderthals: The Origins of Music, Language, Mind and Body*; 2005, ISBN 0-297-64317-7.

[11] Bruner E, Manzi G, Arsuaga JL. Encephalization and Allometric Trajectories in the Genus Homo: Evidence from the Neandertal and Modern Lineages. *Proc. Natl. Acad. Sci. USA* 2003; 100: 15335-15340.

[12] Gooch S. *The Dream Culture of the Neanderthals: Guardians of the Ancient Wisdom. Inner Traditions*, Wildwood House, London; 2006.

[13] Gooch S. *The Neanderthal Legacy: Reawakening Our Genetic and Cultural Origins. Inner Traditions*, Wildwood House, London; 2008.

[14] Kurtén B. *Den Svarta Tigern*, ALBA Publishing, Stockholm, Sweden; 1978.

[15] Spikins P. Autism, the Integrations of 'Difference' and the Origins of Modern Human Behaviour. *Cambridge Archaeological Journal* 2009; 19(2): 179-201.

[16] Eswaran V, Harpending H, Rogers AR. Genomics Refutes an Exclusively African Origin of Humans. *Journal of Human Evolution* 2005; 49(1): 1-18.

# 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 - The Ontogenesis of Schizophrenia, Autism and Epilepsy - Role of Dietary Fibre

## Introduction

Dietary fibre deficiency can lead to increased endosymbiotic and colonic archaeal overgrowth. Increased endosymbiotic archaeal growth in the brain leads to perception of low level EMF related to internet use. This leads to induction of heme oxygenase, heme deficiency, induction of ALA synthase and porphyrin synthesis. The porphyrins can form supramolecular self replicating organisms called porphyrions. The porphyrions can form a template for the formation of RNA viroids, DNA viroids, prions and isoprenoid organism which symbiose to form primitive nanoarchaea. The primitive nanoarchaea have a abiogenetic self replication. The increased growth of archaea consequent to exposure to low level EMF fields in internet users leads to neanderthalisation of the brain. This produces structural changes in the human brain with prefrontal cortical atrophy and cerebellar dominance. The internet exposure and the low level EMF perception lead to modulation of the feeding behaviour leading to dietary fibre deficiency.

Dipolar porphyrins have a wave-particle existence and can mediate quantal and conscious perception by forming Bose-Einstein condensates. Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. 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 thalamo-cortico-thalamic 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 and, (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), $H_2O_2$ (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 | | 130.054 | | 391.318 | | 257.996 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 356.621 | | 427.828 | | 654.453 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 71.706 | | 372.716 | | 556.411 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 680.284 | | 348.867 | | 364.999 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 | | 115.242 | | .065 | | 317.966 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 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 |
| | 380.721 | | 171.228 | | 372.716 | | 556.411 | |
| | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

## Section 2: Patient Study

***Table 1.*** *Archaeal metabolonomics and neuropsychiatric disorders.*

| Group | RBC Digoxin (ng/ml RBC Susp) | | Cytochrome F420 | | 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.*** *Porphyrin metabolism and neuropsychiatric disorders.*

| 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.*** *Heme metabolism and neuropsychiatric disorders.*

| 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.*** *Mitochondrial dysfunction and neuropsychiatric disorders.*

| Group | SE ATP (umol/dl) | | 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 |
| NO/BHCD | 0.42 | 0.11 | 2.79 | 0.28 | 7.38 | 0.31 | 40.51 | 1.42 | 1.66 | 0.45 |
| RHCD | 2.24 | 0.44 | 12.39 | 1.23 | 25.99 | 8.10 | 100.51 | 12.32 | 5.46 | 2.83 |
| LHCD | 0.02 | 0.01 | 1.21 | 0.38 | 2.75 | 0.41 | 23.79 | 2.51 | 0.68 | 0.23 |
| Schizophrenia | 1.26 | 0.19 | 11.58 | 0.90 | 22.07 | 1.06 | 96.54 | 9.96 | 7.69 | 3.40 |
| Seizure | 1.66 | 0.56 | 12.06 | 1.09 | 21.78 | 0.58 | 90.46 | 8.30 | 6.29 | 1.73 |
| Autism | 2.03 | 0.12 | 13.84 | 1.12 | 21.95 | 0.65 | 92.71 | 8.43 | 8.81 | 4.26 |
| Exposure to EMF | 1.37 | 0.27 | 12.26 | 1.00 | 23.31 | 1.46 | 103.28 | 11.47 | 7.58 | 3.09 |
| F value | 67.588 | | 445.772 | | 162.945 | | 154.701 | | 18.187 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

***Table 5.*** *GABA shunt and neuropsychiatric disorders.*

| Group | ACOA (mg/dl) | | ACH (ug/ml) | | Glutamate (mg/dl) | | Se. Ammonia (ug/dl) | |
|---|---|---|---|---|---|---|---|---|
| | Mean | ± SD | Mean | ± SD | Mean | ± SD | Mean | ± SD |
| NO/BHCD | 8.75 | 0.38 | 75.11 | 2.96 | 0.65 | 0.03 | 50.60 | 1.42 |
| RHCD | 2.51 | 0.36 | 38.57 | 7.03 | 3.19 | 0.32 | 93.43 | 4.85 |
| LHCD | 16.49 | 0.89 | 91.98 | 2.89 | 0.16 | 0.02 | 23.92 | 3.38 |
| Schizophrenia | 2.51 | 0.57 | 48.52 | 6.28 | 3.41 | 0.41 | 94.72 | 3.28 |
| Seizure | 2.15 | 0.22 | 33.27 | 5.99 | 3.67 | 0.38 | 95.61 | 7.88 |
| Autism | 2.42 | 0.41 | 50.61 | 6.32 | 3.30 | 0.32 | 94.01 | 5.00 |
| Exposure to EMF | 2.14 | 0.19 | 37.75 | 7.31 | 3.47 | 0.37 | 102.62 | 26.54 |
| F value | 1871.04 | | 116.901 | | 200.702 | | 61.645 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

***Table 6.*** *Cholesterol synthesis and catabolism and neuropsychiatric disorders.*

| Group | HMG Co A (HMG CoA/MEV) | | Bile acid (mg/ml) | |
|---|---|---|---|---|
| | Mean | ± SD | Mean | ± SD |
| NO/BHCD | 1.70 | 0.07 | 79.99 | 3.36 |
| RHCD | 1.16 | 0.10 | 25.68 | 7.04 |
| LHCD | 2.21 | 0.39 | 140.40 | 10.32 |
| Schizophrenia | 1.11 | 0.08 | 22.45 | 5.57 |
| Seizure | 1.14 | 0.07 | 22.98 | 5.19 |
| Autism | 1.12 | 0.06 | 23.16 | 5.78 |
| Exposure to EMF | 1.00 | 0.07 | 22.58 | 5.07 |
| F value | 159.963 | | 635.306 | |
| P value | < 0.001 | | < 0.001 | |

# Abbreviations

NO/BHCD: Normal/Bi-hemispheric chemical dominance

RHCD: Right hemispheric chemical dominance

LHCD: Left hemispheric chemical dominance

# Discussion

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis and Neuropsychiatric Disorders

Dietary fibre deficiency leads to increased endosymbiotic as well as colonic archaeal growth. 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]

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Warburg Phenotype and Neuropsychiatric Disorders

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 synthesise 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 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 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Altered Neurotransmission and Neuropsychiatric Disorders

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 focused attention. Working memory is mediated by the reverberatory thalamo-cortico-thalamic circuit. Focused attention depends upon projections from the thalamic reticular nucleus to the thalamo-cortico-thalamic circuit which is gated by these NMDA/GABAergic fibres. Porphyrins can modulate the NMDA/GABAergic thalamo-cortico-thalamic reverberatory circuit and the gating thalamo-reticular nuclear projections to the thalamo-cortico-thalamic pathway. Perceptual synchronization is a quantal phenomena depending upon the quasi-crystal 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Quantal Perception and Neuropsychiatric Disorders

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 quasi-crystal 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 quasi-crystal 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Low Level EMF Perception, Internet Usage and Neuropsychiatric Disorders

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 autooxidation can generate biophotons and are involved in quantal perception. Biophotons can mediate quantal perception. Porphyrin autooxidation 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Quantal Perception, Biological Reincarnation and Neuropsychiatric Disorders

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]

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Hemispheric Dominance and Neuropsychiatric Disorders

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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis and Evolution of Neuropsychiatric Disorders

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, polysaccharides 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 noncoding region of the DNA. The increase in noncoding region of the DNA is involved in primate and human evolution. Thus, increased rates of porphyrin synthesis would correlate with increase in noncoding DNA length. The alteration in the length of the noncoding region of the DNA contributes to the dynamic nature of the genome. Thus genetic and acquired porphyrias can lead to alteration in the noncoding region of the genome. The alteration of the length of the noncoding region of the DNA contributes to the racial and individual differences in populations. An increased length of noncoding 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.

## Dietary Fibre Deficiency, Endosymbiotic Archaea, Porphyrinogenesis, Quantal Perception and the Observer

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 autooxidation 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.

## References

[1] Eckburg P. B., Lepp, P. W., Relman, D. A. (2003). Archaea and their potential role in human disease, *Infect Immun,* 71, 591-596.

[2] Smit A., Mushegian, A. (2000). Biosynthesis of isoprenoids via mevalonate in Archaea: the lost pathway, *Genome Res,* 10(10), 1468-84.

[3] Puy, H., Gouya, L., Deybach, J. C. (2010). Porphyrias. *The Lancet*, 375(9718), 924- 937.

[4] Kadish, K. M., Smith, K. M., Guilard, C. (1999). *Porphyrin Hand Book.* Academic Press, New York: Elsevier.

[5] Gavish M., Bachman, I., Shoukrun, R., Katz, Y., Veenman, L., Weisinger, G., Weizman, A. (1999). Enigma of the Peripheral Benzodiazepine Receptor. *Pharmacological Reviews,* 51(4), 629-650.

[6] Richmond W. (1973). Preparation and properties of a cholesterol oxidase from nocardia species and its application to the enzymatic assay of total cholesterol in serum, *Clin Chem,* 19, 1350-1356.

[7] Snell E. D., Snell, C. T. (1961). *Colorimetric Methods of Analysis.* Vol 3A. New York: Van Nostrand.

[8] Glick D. (1971). *Methods of Biochemical Analysis.* Vol 5. New York: Interscience Publishers.

[9] Colowick, Kaplan, N. O. (1955). *Methods in Enzymology*. Vol 2. New York: Academic Press.

[10] Van der Geize R., Yam, K., Heuser, T., Wilbrink, M. H., Hara, H., Anderton, M. C. (2007). A gene cluster encoding cholesterol catabolism in a soil actinomycete provides insight into Mycobacterium tuberculosis survival in macrophages, *Proc Natl Acad Sci USA*, 104(6), 1947-52.

[11] Francis A. J. (1998). Biotransformation of uranium and other actinides in radioactive wastes, *Journal of Alloys and Compounds*, 271(273), 78-84.

[12] Schoner W. (2002). Endogenous cardiac glycosides, a new class of steroid hormones, *Eur J Biochem*, 269, 2440-2448.

[13] Vainshtein M., Suzina, N., Kudryashova, E., Ariskina, E. (2002). New Magnet-Sensitive Structures in Bacterial and Archaeal Cells, *Biol Cell*, 94(1), 29-35.

[14] Tsagris E. M., de Alba, A. E., Gozmanova, M., Kalantidis, K. (2008). Viroids, *Cell Microbiol*, 10, 2168.

[15] Horie M., Honda, T., Suzuki, Y., Kobayashi, Y., Daito, T., Oshida, T. (2010). Endogenous non-retroviral RNA virus elements in mammalian genomes, *Nature*, 463, 84-87.

[16] Kurup R., Kurup, P. A. (2009). *Hypothalamic Digoxin, Cerebral Dominance and Brain Function in Health and Diseases*. New York: Nova Science Publishers.

[17] Adam Z. (2007). Actinides and Life's Origins, *Astrobiology*, 7, 6-10.

[18] Davies P. C. W., Benner, S. A., Cleland, C. E., Lineweaver, C. H., McKay, C. P., Wolfe-Simon, F. (2009). Signatures of a Shadow Biosphere, *Astrobiology*, 10, 241-249.

[19] Tielens A. G. G. M. (2008). Interstellar Polycyclic Aromatic Hydrocarbon Molecules, *Annual Review of Astronomy and Astrophysics*, 46, 289-337.

[20] Wickramasinghe C. (2004). The universe: a cryogenic habitat for microbial life, *Cryobiology*, 48(2), 113-125.

[21] Hoyle F., Wickramasinghe, C. (1988). *Cosmic Life-Force*. London: J. M. Dent and Sons Ltd.

# Dietary Fibre, Endosymbiotic Archaea and Symbiotic Evolution Series

- Dietary Fibre and Symbiotic Evolution - Human Species Evolution - Social, Political, Economic, Spiritual, Sexual and Cultural Evolution
- Dietary Fibre and Brain Evolution – Relation to Schizophrenia and Autism
- Dietary Fibre Deficiency Syndrome – Evolution of Prion Disease, Retroviral and New Viral Epidemics
- Dietary Fibre, the Fasted Spiritual State, Archaeal Endosymbiosis and the Neural Substrate of Advaitha Philosophy – Self Cannibalistic Syndrome
- The Internet as the Machine Master of the Human Brain – the Spectre of Internet Controlled Live Human Robotic Netocratic Society – Role of Fibre Deficient Diet

ISBN:978-1-946898-43-2


Price: US $ 80

To order the series of books, please contact:
Open Science Publishers
Web: www.openscienceonline.com
Email: book@openscienceonline.com