

The Biology of
**Social Systems - Feminism,
Matriarchy and Patriarchy**

Ravikumar Kurup
Parameswara Achutha Kurup



The Biology of Social Systems - Feminism, Matriarchy and Patriarchy

Ravikumar Kurup
Parameswara Achutha Kurup

ISBN: 978-1-941926-73-4

© 2016 Ravikumar Kurup. Licensee Open Science Publishers.

© 2016 Parameswara Achutha Kurup. Licensee Open Science Publishers.

This work is distributed under the terms of the Creative Commons Attribution 3.0 Unported License

(<http://creativecommons.org/licenses/by/3.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



Published in 2016 by Open Science Publishers

228 Park Ave., S#45956, New York, NY 10003, U.S.A.

<http://www.openscienceonline.com>

Contents

| | | |
|-----------|---|----|
| Chapter 1 | Fossilised Neanderthal Matrilineal Societies - Neoneanderthal Hybrids, Endosymbiotic Actinidic Archaea and Civilisational Diseases | 1 |
| Chapter 2 | Actinidic Archaea, Digoxin Synthesis and Neanderthalisation - A Biological Theory of Socio-Political, Spiritual, Sexual and Cultural Identity | 41 |
| Chapter 3 | The Modern Neanderthal Civilisation and the Cromagnon Neanderthal Conflict - Evidence from Human Biology | 55 |
| Chapter 4 | Climate Change, Global Warming and Alternate Sexual Matrilineal Neoneanderthals | 65 |
| Chapter 5 | The Surrealistic, Syntheistic, Asexual Brain - Relation to Climate Change, Internet Exposure and Neanderthalisation of Brain - Evolution of Homo Neoneanderthalis | 77 |
| Chapter 6 | Archaea Induced Stem Cell Syndrome and Androgynous Creative Matriarchal Cannibalistic Capitalistic State | 89 |

Chapter 1

**Fossilised Neanderthal Matrilineal
Societies - Neoneanderthal Hybrids, Endosymbiotic
Actinidic Archaea and Civilisational Diseases**

Introduction

The human genome has been found to have up to 10 percent Neanderthal genes. Neanderthal hybrids with homo sapiens species are common in global population. There is a high incidence of autism, schizophrenia and Neanderthal anthropometric phenotypes in the Nair community of Kerala. The Nair community is matrilineal and is one of the few functional matriarchies in the world and speaks the Dravidian language with similarities to Celtic, Scythian, Berber and Basque societies. The autistic brain is comparable to the large sized Neanderthal brain.¹ Autistic and schizophrenic metabolonomic patterns include low efficiency pyruvate dehydrogenase activity, mitochondrial dysfunction, dominant GABA shunt, Warburg glycolytic phenotype, hyperammonemia, hyperhomocysteinemia, porphyria, low cholesterol and bile acid levels.² Similar pattern of autistic metabolonomics is seen in the normal Nair population of Kerala. Neanderthal metabolonomic patterns include a low efficiency PDH activity.³ Autistic, schizophrenic and matrilineal societies like Nair can be considered as fossilized remnants of the Neanderthal population.⁴ Endosymbiotic actinidic archaea using cholesterol as an energy substrate has been described in systemic disease from our laboratory.² The autistic, schizophrenic and Nair population have increased actinide dependent cytochrome F420 activity suggestive of endosymbiotic archaeal growth. Archaeal induced PDH and mitochondrial suppression results in the autistic and schizophrenic metabolonomic cascade. The increased archaeal growth in extremophilic conditions of the Ice age would have contributed to the evolution of Neanderthal population.⁵ There is a rising epidemic of autism and schizophrenia indicating neanderthalisation of the human species due to global warming, extreme climate change and archaeal growth. Global warming itself could be construed as due to increased archaeal growth and methanogenesis. It

would indicate the emergence of cultural, linguistic, psychological, neurological, metabolic, immune and anthropometric phenotype - homo archaeax neanderthalis. The aim of the study aimed to detect fossilised Neanderthal matrilineal societies and new Neanderthal hybrids in relation to civilisational diseases.

Materials and Methods

Four groups, 25 numbers in each group were chosen for the study - the autistic population diagnosed according to DSM criteria, the normal Nair population, the normal non-Nair population and civilisational disease group including metabolic syndrome x, Alzheimer's disease, cancer, schizophrenia and multiple sclerosis. The matrilineal characteristics and Neanderthal anthropometric characteristics of normal Nair and non-Nair population as well as autistic and schizophrenic population were studied. The blood samples were drawn in the fasting state before treatment was initiated. The estimations done in the blood samples collected include cytochrome F420 activity, cholesterol oxidase activity - cholesterol ring oxidase activity, cholesterol side chain oxidase activity and cholesterol aromatase activity, digoxin, lactate, pyruvate, ammonia, ATP, glutamate, acetyl CoA, acetyl choline, ALA, homocysteine, cholesterol and bile acid levels as well as cyto C and hexokinase levels activity. Archaeal cholesterol catabolism was studied as follows - Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+cerium 0.1 mg/ml, (IV) same as II+ciprofloxacin 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 °C for 1 hour. The following estimations were carried out: - Cytochrome F420, polycyclic aromatic hydrocarbon, hydrogen peroxide, pyruvate, ammonia,

glutamate, digoxin, butyrate, propionate and bile acids. Cytochrome F420 was estimated fluorimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). Polycyclic aromatic hydrocarbon was estimated by measuring hydrogen peroxide liberated by using glucose reagent. 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

The results of the study were as follows. The Nair, schizophrenic and autistic group had (1) increased cytochrome F420 activity, cholesterol oxidase activity, ring oxidase activity, aromatase activity and digoxin synthesis (2) had decreased PDH activity as indicated by increased pyruvate and lactate levels with low acetyl CoA levels (3) had increased glycolysis as indicated by increased hexokinase activity and mitochondrial dysfunction as noted by increased cyto C activity in the serum and low ATP levels (4) had low cholesterol and bile acid levels and increased homocysteine levels (5) had increased GABA shunt pathway as indicated by increased pyruvate, glutamate and ammonia levels (6) had increased porphyrin synthesis from substrates glycine and succinyl CoA derived from GABA shunt pathway as indicated by increased ALA levels. The Nair, schizophrenic, autistic and civilisational disease group had features of Neanderthal metabolism as indicated by pyruvate dehydrogenase suppression.

There is an increased incidence of autism and schizophrenia in the Nair community of Kerala with 68 percent of the autistic patient population of 1500 attending the Metabolic Centre belonging to this matrilineal community. The incidence of schizophrenia in the Nair community is around 30 percent. The autistic population, schizophrenic and the Nair population have the Neanderthal anthropometric phenotype with slanting forehead, large face,

stubby nose, prominent mandibles, low 2D:4D ratio, large coarse trunk, macrocephaly and longer second toe as compared to big toe.

Table 1. Incidence of autism in Nair, autistic and non-Nair population.

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

Table 2. Incidence of schizophrenia in Nair and non-Nair population.

| Groups | Schizophrenia | Percentage |
|----------|---------------|------------|
| Nair | 30 cases | 30 |
| Non-nair | 70 cases | 70 |
| Total | 100 | |

(Nair population is 7% of Kerala population)

Table 3. Anthropometric features in Nair, autistic and non-Nair population.

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

Table 4. *Autistic metabolonomics.*

| | | Nair | Non-Nair | Schizo | AD | MS |
|--|------|-------------|-----------------|---------------|-----------|-----------|
| RBC Digoxin (ng/ml RBC Susp) | Mean | 1.41 | 0.18 | 1.38 | 1.10 | 1.21 |
| | ±SD | 0.23 | 0.05 | 0.26 | 0.08 | 0.21 |
| Cytochrome F420 | Mean | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| | ±SD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| H ₂ O ₂ (umol/ml RBC) | Mean | 278.29 | 111.63 | 274.88 | 277.47 | 280.89 |
| | ±SD | 7.74 | 5.40 | 8.73 | 10.90 | 11.25 |
| NOX (OD diff/hr/mgpro) | Mean | 0.04 | 0.01 | 0.04 | 0.04 | 0.03 |
| | ±SD | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 |
| TNF ALP (pg/ml) | Mean | 78.63 | 9.29 | 78.23 | 79.65 | 80.18 |
| | ±SD | 5.08 | 0.81 | 7.13 | 5.57 | 5.67 |
| ALA (umol24) | Mean | 63.50 | 3.86 | 66.16 | 67.32 | 64.00 |
| | ±SD | 6.95 | 0.26 | 6.51 | 5.40 | 7.33 |
| SE ATP (umol/dl) | Mean | 2.24 | 0.02 | 1.26 | 2.06 | 1.63 |
| | ±SD | 0.44 | 0.01 | 0.19 | 0.19 | 0.26 |
| Cyto C (ng/ml) | Mean | 12.39 | 1.21 | 11.58 | 11.94 | 11.81 |
| | ±SD | 1.23 | 0.38 | 0.90 | 0.86 | 0.67 |
| Lactate (mg/dl) | Mean | 25.99 | 2.75 | 22.07 | 22.04 | 23.32 |
| | ±SD | 8.10 | 0.41 | 1.06 | 0.64 | 1.10 |
| Pyruvate (umol/l) | Mean | 100.51 | 23.79 | 96.54 | 97.26 | 102.48 |
| | ±SD | 12.32 | 2.51 | 9.96 | 8.26 | 13.20 |
| RBC hexokinase (ug glu phos / hr/mgpro) | Mean | 5.46 | 0.68 | 7.69 | 8.46 | 8.56 |
| | ±SD | 2.83 | 0.23 | 3.40 | 3.63 | 4.75 |
| ACOA (mg/dl) | Mean | 2.51 | 16.49 | 2.51 | 2.19 | 2.03 |
| | ±SD | 0.36 | 0.89 | 0.57 | 0.15 | 0.09 |
| ACH (ug/ml) | Mean | 38.57 | 91.98 | 48.52 | 42.84 | 39.99 |
| | ±SD | 7.03 | 2.89 | 6.28 | 8.26 | 12.61 |
| Glutamate (mg/dl) | Mean | 3.19 | 0.16 | 3.41 | 3.53 | 3.58 |
| | ±SD | 0.32 | 0.02 | 0.41 | 0.39 | 0.36 |
| Se. ammonia (ug/dl) | Mean | 93.43 | 23.92 | 94.72 | 95.37 | 93.42 |
| | ±SD | 4.85 | 3.38 | 3.28 | 4.66 | 3.69 |
| Bile acid (mg/ml) | Mean | 25.68 | 140.40 | 22.45 | 26.26 | 24.12 |
| | ±SD | 7.04 | 10.32 | 5.57 | 7.34 | 6.43 |
| Cholesterol (mg/dl) | Mean | 129.23 | 237.36 | 126.31 | 130.14 | 126.67 |
| | ±SD | 10.03 | 38.07 | 6.93 | 6.64 | 5.70 |
| Homocysteine (mg/dl) | Mean | 37.49 | 9.18 | 31.50 | 31.75 | 38.39 |
| | ±SD | 9.17 | 0.80 | 4.07 | 4.62 | 8.75 |

Table 4. Continue.

| | | Cancer | DM | Autism | F value | P value |
|--|------|---------------|-----------|---------------|----------------|----------------|
| RBC Digoxin (ng/ml RBC Susp) | Mean | 1.27 | 1.35 | 1.19 | 60.288 | < 0.001 |
| | ±SD | 0.24 | 0.26 | 0.24 | | |
| Cytochrome F420 | Mean | 4.00 | 4.00 | 4.00 | 0.001 | < 0.001 |
| | ±SD | 0.00 | 0.00 | 0.00 | | |
| H ₂ O ₂ (umol/ml RBC) | Mean | 278.19 | 280.89 | 274.52 | 713.569 | < 0.001 |
| | ±SD | 12.80 | 10.58 | 9.29 | | |
| NOX (OD diff/hr/mgpro) | Mean | 0.04 | 0.04 | 0.04 | 44.896 | < 0.001 |
| | ±SD | 0.01 | 0.01 | 0.01 | | |
| TNF ALP (pg/ml) | Mean | 79.18 | 78.36 | 76.71 | 427.654 | < 0.001 |
| | ±SD | 5.88 | 6.68 | 5.25 | | |
| ALA (umol24) | Mean | 67.67 | 64.72 | 68.16 | 295.467 | < 0.001 |
| | ±SD | 5.69 | 6.81 | 4.92 | | |
| SE ATP (umol/dl) | Mean | 1.48 | 1.97 | 2.03 | 67.588 | < 0.001 |
| | ±SD | 0.32 | 0.11 | 0.12 | | |
| Cyto C (ng/ml) | Mean | 13.00 | 12.95 | 12.48 | 445.772 | < 0.001 |
| | ±SD | 0.42 | 0.56 | 0.79 | | |
| Lactate (mg/dl) | Mean | 22.20 | 25.56 | 21.95 | 162.945 | < 0.001 |
| | ±SD | 0.85 | 7.93 | 0.65 | | |
| Pyruvate (umol/l) | Mean | 96.58 | 96.30 | 92.71 | 154.701 | < 0.001 |
| | ±SD | 8.75 | 10.33 | 8.43 | | |
| RBC hexokinase (ug glu phos / hr/mgpro) | Mean | 7.82 | 7.05 | 6.95 | 18.187 | < 0.001 |
| | ±SD | 3.51 | 1.86 | 2.02 | | |
| ACOA (mg/dl) | Mean | 2.34 | 2.17 | 2.42 | 1871.04 | < 0.001 |
| | ±SD | 0.43 | 0.40 | 0.41 | | |
| ACH (ug/ml) | Mean | 42.51 | 41.31 | 50.61 | 116.901 | < 0.001 |
| | ±SD | 11.58 | 10.69 | 6.32 | | |
| Glutamate (mg/dl) | Mean | 3.28 | 3.53 | 3.30 | 200.702 | < 0.001 |
| | ±SD | 0.39 | 0.44 | 0.32 | | |
| Se. ammonia (ug/dl) | Mean | 93.20 | 93.38 | 94.01 | 61.645 | < 0.001 |
| | ±SD | 4.46 | 7.76 | 5.00 | | |
| Bile acid (mg/ml) | Mean | 23.43 | 22.77 | 23.16 | 635.306 | < 0.001 |
| | ±SD | 6.03 | 4.94 | 5.78 | | |
| Cholesterol (mg/dl) | Mean | 130.52 | 129.23 | 125.86 | 312.947 | < 0.001 |
| | ±SD | 8.01 | 5.97 | 7.79 | | |
| Homocysteine (mg/dl) | Mean | 39.64 | 39.38 | 41.55 | 46.516 | < 0.001 |
| | ±SD | 9.21 | 7.00 | 7.62 | | |

Table 5. Cholesterol oxidase activity.

| | | Nair | Non-nair | Schizo | AD | MS |
|---------------------------------|------|-------------|-----------------|---------------|-----------|-----------|
| CYT F420 % | Mean | 23.46 | 4.48 | 23.24 | 23.12 | 22.12 |
| (Increase with Cerium) | ±SD | 1.87 | 0.15 | 2.01 | 2.00 | 1.81 |
| CYT F420 % | Mean | 59.27 | 18.24 | 58.72 | 56.90 | 61.33 |
| (Decrease with Doxy+Cipro) | ±SD | 8.86 | 0.66 | 7.08 | 6.94 | 9.82 |
| PAH % change | Mean | 22.67 | 4.45 | 23.01 | 23.26 | 22.83 |
| (Increase with Cerium) | ±SD | 2.29 | 0.14 | 1.69 | 1.53 | 1.78 |
| PAH % change | Mean | 57.69 | 18.25 | 59.49 | 60.91 | 59.84 |
| (Decrease with Doxy+Cipro) | ±SD | 5.29 | 0.72 | 4.30 | 7.59 | 7.62 |
| Digoxin (ng/ml) | Mean | 0.51 | 0.11 | 0.55 | 0.55 | 0.52 |
| (Increase with Cerium) | ±SD | 0.05 | 0.00 | 0.06 | 0.03 | 0.03 |
| Digoxin (ng/ml) | Mean | 0.20 | 0.05 | 0.22 | 0.19 | 0.21 |
| (Decrease with Doxy+Cipro) | ±SD | 0.03 | 0.00 | 0.04 | 0.04 | 0.03 |
| Bile Acids % change | Mean | 22.61 | 4.29 | 23.20 | 22.12 | 21.95 |
| (Increase with Cerium) | ±SD | 2.22 | 0.18 | 1.87 | 2.19 | 2.11 |
| Bile acids % change | Mean | 66.62 | 18.15 | 57.04 | 62.86 | 65.46 |
| (Decrease with Doxy+Cipro) | ±SD | 4.99 | 0.58 | 4.27 | 6.28 | 5.79 |
| Pyruvate % change | Mean | 20.94 | 4.34 | 20.99 | 22.63 | 21.59 |
| (Increase with Cerium) | ±SD | 1.54 | 0.21 | 1.46 | 0.88 | 1.23 |
| Pyruvate % change | Mean | 62.76 | 18.43 | 61.23 | 56.40 | 60.28 |
| (Decrease with Doxy+Cipro) | ±SD | 8.52 | 0.82 | 9.73 | 8.59 | 9.22 |
| H ₂ O ₂ % | Mean | 23.81 | 4.43 | 22.50 | 22.65 | 21.14 |
| (Increase with Cerium) | ±SD | 1.19 | 0.19 | 1.66 | 2.48 | 1.20 |
| H ₂ O ₂ % | Mean | 61.08 | 18.13 | 60.21 | 60.19 | 60.53 |
| (Decrease with Doxy+Cipro) | ±SD | 7.38 | 0.63 | 7.42 | 6.98 | 4.70 |
| Butyrate % | Mean | 22.29 | 4.41 | 21.88 | 23.66 | 22.92 |
| (Increase with Cerium) | ±SD | 1.33 | 0.15 | 1.19 | 1.67 | 2.14 |
| Butyrate % n | Mean | 65.38 | 18.63 | 66.28 | 65.97 | 67.54 |
| (Decrease with Doxy+Cipro) | ±SD | 3.62 | 0.12 | 3.60 | 3.36 | 3.65 |
| Propionate % change | Mean | 22.13 | 4.34 | 23.02 | 23.09 | 21.93 |
| (Increase with Cerium) | ±SD | 2.14 | 0.15 | 1.65 | 1.81 | 2.29 |
| Propionate % change | Mean | 66.26 | 18.24 | 67.61 | 65.86 | 63.70 |
| (Decrease with Doxy+Cipro) | ±SD | 3.93 | 0.37 | 2.77 | 4.27 | 5.63 |
| ATP synthase % | Mean | 4.40 | 23.67 | 23.09 | 23.58 | 23.52 |
| (Increase with Cerium) | ±SD | 0.11 | 1.42 | 1.90 | 2.08 | 1.76 |
| ATP synthase % | Mean | 18.78 | 67.39 | 66.15 | 66.21 | 67.05 |
| (Decrease with Doxy+Cipro) | ±SD | 0.11 | 3.13 | 4.09 | 3.69 | 3.00 |
| Hexokinase % change | Mean | 4.21 | 23.01 | 23.33 | 22.96 | 22.81 |
| (Increase with Cerium) | ±SD | 0.16 | 2.61 | 1.79 | 2.12 | 1.91 |
| Hexokinase % change | Mean | 18.56 | 65.87 | 62.50 | 65.11 | 63.47 |
| (Decrease with Doxy+Cipro) | ±SD | 0.76 | 5.27 | 5.56 | 5.91 | 5.81 |

Table 5. Continue.

| | | Cancer | DM | Autism | F value | P value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------|---------------|-----------|---------------|----------------|----------------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|------|------|---|------|-------|-------|-------|---------|---------|--|-----|------|
| CYT F420 % (Increase with Cerium) | Mean | 22.79 | 22.59 | 21.68 | 306.749 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 2.13 | 1.86 | 1.90 | | | CYT F420 % (Decrease with Doxy+Cipro) | Mean | 55.90 | 57.05 | 57.93 | 130.054 | < 0.001 | | ±SD | 7.29 | 8.45 | 9.64 | PAH % change (Increase with Cerium) | Mean | 22.84 | 23.40 | 22.61 | 391.318 | < 0.001 | | ±SD | 1.42 | 1.55 | 1.42 | PAH % change (Decrease with Doxy+Cipro) | Mean | 66.07 | 65.77 | 64.48 | 257.996 | < 0.001 | | ±SD | 3.78 | 5.27 | 6.90 | Digoxin (ng/ml) (Increase with Cerium) | Mean | 0.54 | 0.47 | 0.53 | 135.116 | < 0.001 | | ±SD | 0.04 | 0.04 | 0.08 | Digoxin (ng/ml) (Decrease with Doxy+Cipro) | Mean | 0.21 | 0.20 | 0.21 | 71.706 | < 0.001 | | ±SD | 0.04 | 0.03 | 0.04 | Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | ±SD | 2.19 | 2.58 | 2.04 | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 |
| CYT F420 % (Decrease with Doxy+Cipro) | Mean | 55.90 | 57.05 | 57.93 | 130.054 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 7.29 | 8.45 | 9.64 | | | PAH % change (Increase with Cerium) | Mean | 22.84 | 23.40 | 22.61 | 391.318 | < 0.001 | | ±SD | 1.42 | 1.55 | 1.42 | PAH % change (Decrease with Doxy+Cipro) | Mean | 66.07 | 65.77 | 64.48 | 257.996 | < 0.001 | | ±SD | 3.78 | 5.27 | 6.90 | Digoxin (ng/ml) (Increase with Cerium) | Mean | 0.54 | 0.47 | 0.53 | 135.116 | < 0.001 | | ±SD | 0.04 | 0.04 | 0.08 | Digoxin (ng/ml) (Decrease with Doxy+Cipro) | Mean | 0.21 | 0.20 | 0.21 | 71.706 | < 0.001 | | ±SD | 0.04 | 0.03 | 0.04 | Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | ±SD | 2.19 | 2.58 | 2.04 | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | |
| PAH % change (Increase with Cerium) | Mean | 22.84 | 23.40 | 22.61 | 391.318 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 1.42 | 1.55 | 1.42 | | | PAH % change (Decrease with Doxy+Cipro) | Mean | 66.07 | 65.77 | 64.48 | 257.996 | < 0.001 | | ±SD | 3.78 | 5.27 | 6.90 | Digoxin (ng/ml) (Increase with Cerium) | Mean | 0.54 | 0.47 | 0.53 | 135.116 | < 0.001 | | ±SD | 0.04 | 0.04 | 0.08 | Digoxin (ng/ml) (Decrease with Doxy+Cipro) | Mean | 0.21 | 0.20 | 0.21 | 71.706 | < 0.001 | | ±SD | 0.04 | 0.03 | 0.04 | Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | ±SD | 2.19 | 2.58 | 2.04 | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | |
| PAH % change (Decrease with Doxy+Cipro) | Mean | 66.07 | 65.77 | 64.48 | 257.996 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 3.78 | 5.27 | 6.90 | | | Digoxin (ng/ml) (Increase with Cerium) | Mean | 0.54 | 0.47 | 0.53 | 135.116 | < 0.001 | | ±SD | 0.04 | 0.04 | 0.08 | Digoxin (ng/ml) (Decrease with Doxy+Cipro) | Mean | 0.21 | 0.20 | 0.21 | 71.706 | < 0.001 | | ±SD | 0.04 | 0.03 | 0.04 | Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | ±SD | 2.19 | 2.58 | 2.04 | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Digoxin (ng/ml) (Increase with Cerium) | Mean | 0.54 | 0.47 | 0.53 | 135.116 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 0.04 | 0.04 | 0.08 | | | Digoxin (ng/ml) (Decrease with Doxy+Cipro) | Mean | 0.21 | 0.20 | 0.21 | 71.706 | < 0.001 | | ±SD | 0.04 | 0.03 | 0.04 | Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | ±SD | 2.19 | 2.58 | 2.04 | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Digoxin (ng/ml) (Decrease with Doxy+Cipro) | Mean | 0.21 | 0.20 | 0.21 | 71.706 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 0.04 | 0.03 | 0.04 | | | Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | ±SD | 2.19 | 2.58 | 2.04 | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile Acids % change (Increase with Cerium) | Mean | 22.98 | 22.87 | 22.21 | 290.441 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 2.19 | 2.58 | 2.04 | | | Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | ±SD | 5.64 | 5.93 | 6.16 | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile acids % change (Decrease with Doxy+Cipro) | Mean | 64.96 | 64.51 | 63.84 | 203.651 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 5.64 | 5.93 | 6.16 | | | Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | ±SD | 1.61 | 1.38 | 1.71 | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pyruvate % change (Increase with Cerium) | Mean | 21.19 | 20.67 | 21.91 | 321.255 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 1.61 | 1.38 | 1.71 | | | Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | ±SD | 7.47 | 8.12 | 6.66 | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pyruvate % change (Decrease with Doxy+Cipro) | Mean | 58.57 | 58.75 | 58.45 | 115.242 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 7.47 | 8.12 | 6.66 | | | H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | ±SD | 1.76 | 1.53 | 1.49 | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H ₂ O ₂ % (Increase with Cerium) | Mean | 23.35 | 23.27 | 23.52 | 380.721 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 1.76 | 1.53 | 1.49 | | | H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | ±SD | 3.33 | 6.09 | 7.36 | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H ₂ O ₂ % (Decrease with Doxy+Cipro) | Mean | 59.17 | 58.91 | 63.24 | 171.228 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 3.33 | 6.09 | 7.36 | | | Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | ±SD | 1.90 | 1.61 | 2.20 | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Butyrate % (Increase with Cerium) | Mean | 23.81 | 24.10 | 22.76 | 403.394 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 1.90 | 1.61 | 2.20 | | | Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | ±SD | 3.67 | 4.43 | 3.52 | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Butyrate % (Decrease with Doxy+Cipro) | Mean | 66.95 | 65.78 | 67.63 | 680.284 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 3.67 | 4.43 | 3.52 | | | Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | ±SD | 1.71 | 2.46 | 2.20 | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Propionate % change (Increase with Cerium) | Mean | 23.12 | 22.73 | 22.79 | 348.867 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 1.71 | 2.46 | 2.20 | | | Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | ±SD | 5.58 | 4.35 | 6.02 | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Propionate % change (Decrease with Doxy+Cipro) | Mean | 65.12 | 65.87 | 64.26 | 364.999 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 5.58 | 4.35 | 6.02 | | | ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | ±SD | 1.17 | 1.73 | 1.64 | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATP synthase % (Increase with Cerium) | Mean | 24.01 | 23.72 | 22.60 | 449.503 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 1.17 | 1.73 | 1.64 | | | ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | ±SD | 3.84 | 3.69 | 4.21 | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATP synthase % (Decrease with Doxy+Cipro) | Mean | 66.66 | 66.25 | 66.86 | 673.081 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 3.84 | 3.69 | 4.21 | | | Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | ±SD | 2.41 | 1.88 | 1.87 | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hexokinase % change (Increase with Cerium) | Mean | 22.53 | 23.23 | 22.88 | 292.065 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 2.41 | 1.88 | 1.87 | | | Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hexokinase % change (Decrease with Doxy+Cipro) | Mean | 64.29 | 65.11 | 65.45 | 317.966 | < 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±SD | 5.44 | 5.14 | 5.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Discussion

Matrilineal Societies and Neanderthal Hybrids

Reports indicate that the autistic brain is larger and similar in size to the Neanderthal brain.⁶⁻⁸ Neanderthal societies were matrilineal and matriarchal with female dominance. Autistic, schizophrenic and Nair matrilinearity had also similarities with Neanderthal clusters. Matrilineal culture and matriarchy are seen in the Nair societies and they speak a Dravidian language. The language and culture of the matrilineal Nair community is similar to the Celtic, Basque, Berber and Scythian societies. Matrilineal Nair society with its high incidence of autism and Neanderthal anthropometric characteristics would represent fossilized remnants of the Neanderthal population along with the Celtic, Jews, Sumerian, Minoan, Harappan, Scythian, Basque, South African bushmen and Berber societies. These societies are predominantly characterized by the use of Dravidian linguistics. The Neanderthal fossilised remnant societies described above probably inhabitant the mythological Lemurian continent the remnants of which have been described under the Indian ocean. The end of the ice age resulted in floods and break up of Lemuria and the population migrated to the Eurasian land mass creating the Harappan civilization, the Sumerian civilization, the Egyptian civilization, Celtic civilization and Minoan civilization which were all co-terminus Dravidian and matrilineal. They can be compared to the mythological asuras in the Vedas whose society was also matrilineal. There was gender equality and matriarchal dominance. The asuric society of the Vedas was democratic and more equal. They had extrasensory perceptive capabilities and extreme form of spirituality. The asuric society is represented in the Dravidian South India where festivals like onam in celebration of the asura king Mahabali are celebrated. It is anthropological evidence of the asuric origin of the Dravidians. The Dravidians were originally supposed to have evolved in the continent of Lemuria in the Indian ocean. Traces of this massive supercontinent

involving land masses of South India, Southern Africa, Australia and Antarctica have been detected in the oceanic bed of the Indian ocean. Certain diseases like endomyocardial fibrosis, chronic calcific pancreatitis, multinodular goitre and mucoid angiopathy are specific for south India, South Africa and Australian aboriginals. All these communities South Indian including Nairs, bushmen and Australian aboriginals speak Dravidian related languages and are matrilineal. These endemic disease have been related to the actinidic monazite and illmenite seen in the ocean shores of South India, South Africa and Australia. This is further medical anthropological evidence of the origin of matrilineal neanderthalic asuric communities from the Lemurian supercontinent. This supercontinent also encompassed parts of Antarctica. The Neanderthal skin colour was more lighter and fairer to increase UV absorption and correct vitamin D deficiency seen in this groups which would have originated in the Antarctic part of the Lemurian supercontinent. Life originated in the Lemurian supercontinent on actinidic substrates forming the original archaeal cell which evolved to multicellular forms. The Neanderthal origin would be related to massive extremophilic archaeal expansion which occurred in the ice age. The asuras of vedas and Rig vedic descriptions would fit in with a Southern polar origin of the epic. The principle God of the Rig veda was Varuna which was an oceanic God and asura. The other Gods of the Rig veda - Rudra, Vayu and Agni were also asuras. This can indicate a Southern Lemurian origin for Vedic mythology and its asuric Vedic Gods. The asuric society was democratic, more social, spiritual, eco-conscious, gender equal, matrilineal and socialistic. The ice age ended and the floods that occurred following it as well as the massive Tsunamis in the Indian ocean broke up the Lemurian land mass. This has been described in Vedic literature on the Dravidian King Manu who survived the flood and migrated north to the Eurasian land mass. The asuric Dravidians who migrated north developed the modern cities of Harappa and Mohenjodaro,

Sumeria, Minoan civilization of Crete, the Egyptian civilisation, the Basque, Celt and Berber societies. The mythology of these matrilineal societies has Siva as their God, identified in different names like Minoan Zeus, the Celtic cerannos and the Irish dragda. The language of the societies could be related to Dravidian and the structure of the society was matrilineal like the asuras. The homo sapien groups evolved in Africa in relation to HERV sequences in the human genome. HERV sequences in the genome contributed to fluidity and dynamic nature of the genome leading to the evolution of the prefrontal cortex dominant homo sapien brain. The homo sapiens migrated from Africa northwards in the central Eurasian landmass. They were a primitive nomadic society without an urban culture, mythology, language or arts. The devas of the Rig Veda would be these homo sapien groups which migrated out of Africa into Europe at a later stage and settled in central Eurasia with their lighter colour as an adaptation for increased UV absorption and vitamin D synthesis in the colder regions. The battles between the asuras and devas were attempts by the central Asian homo sapien population to overcome and subdue the asuras to inhabited the Indus valley and created the civilisation in Harappa and Mohenjodaro. The defeated asuric Dravidians of Mohenjodaro and Harappa migrated south and settled in their original home land in South India. The matrilineal Dravidian Nair community with increased autistic rates belongs to this group.

Autistic and Neanderthal Metabolomics

Autistic, schizophrenic and Nair metabolomic patterns had similarities with Neanderthals population. Neanderthals have a low efficient pyruvate dehydrogenase activity.⁹ The Neanderthals diet was rich in protein and fat and low in carbohydrate. Ketone body was used as the energy fuel and does not need the insulin receptor for metabolism. Therefore insulin resistance developed as a part of the Neanderthal diet and the Neanderthal phenotype is akin to the

metabolic syndrome phenotype. As there was less need to metabolize glucose owing to an intake of high fat, high protein diet the enzyme pyruvate dehydrogenase would have evolved into a low efficiency system. Insulin resistance would have contributed to lipogenesis as a protective adaptation against the cold climate of the Ice age. Insulin resistance and ketogenic diet would have contributed to the longevity of the Neanderthal population. Insulin resistance has been related to autism. Pyruvate dehydrogenase deficiency leads to low acetyl CoA levels. This leads to a down regulated mevalonate pathway and low cholesterol synthesis. Low cholesterol levels are related to autism. Smith Lemli Opitz syndrome is related to autism and schizophrenia. Low cholesterol values would have contributed to vitamin D deficiency in Neanderthals. Vitamin D deficiency and rickets would explain the skeletal abnormalities and macrocephaly of Neanderthals. Vitamin D deficiency would have led to fairer complexion of the Neanderthals in view of increased need of cutaneous UV ray absorption to promote increased vitamin D synthesis to correct its deficiency. Cholesterol catabolizing endosymbiotic actinidic archaea has been described in systemic and neuropsychiatric disease from our laboratory. There is increased actinide dependent cytochrome F420 activity in autistic, schizophrenic and normal Nair population. This indicates increased endosymbiotic archaeal growth which suppresses pyruvate dehydrogenase activity. Autistic, schizophrenic and nair metabolonomic patterns include low efficiency pyruvate dehydrogenase activity contributing to pyruvic acidemia. Pyruvate is not converted to acetyl CoA. Acetyl CoA deficiency results in mitochondrial oxidative phosphorylation defects and mitochondrial dysfunction. Energy is obtained from glycolysis and this leads to the genesis of the Warburg phenotype. The actinide dependent hexokinase activity and actinide dependent ATP synthase activity were high but the blood ATP levels were low. The cyto C activity in the blood was high indicating mitochondrial dysfunction. The

pyruvate is channelled to the GABA shunt pathway to glutamate. Glutamate is acted upon by glutamate dehydrogenase generating ammonia which acts as a neurotransmitter modulating thalamo-cortico-thalamic GABA/NMDA function and consciousness. The GABA shunt pathway also generates succinyl CoA and glycine which are substrates for porphyrin synthesis contributing to porphyria. Since glycine is utilized for porphyrin synthesis it is not available for cystathionine synthesis. This contributes to hyperhomocysteinemia and hypermethionemia modulating genomic methylation patterns. Hyperhomocysteinemia, hyperammonemia and porphyria are characteristic of autism and schizophrenia. The low acetyl CoA leads to low cholesterol synthesis and low bile acid as well as vitamin D synthesis. Vitamin D and bile acids bind to the VDR producing immunosuppression and their deficiency contributes to the autoimmunity of autism and schizophrenia. Vitamin D and bile acid deficiency can modulate neocortical development and contribute to autism and schizophrenia. Low cholesterol levels can contribute to low sex hormone levels and less well defined gender phenotypes in autism and schizophrenia. Pyruvate dehydrogenase forms part of the enzyme system 2-oxoacid dehydrogenases which were all deficient in Neanderthals, schizophrenic and autistic groups. The other enzymes included are branched chain ketoacid dehydrogenase, glycine cleavage enzyme - glycine decarboxylase which are deficient in autism, schizophrenic and Neanderthals. The branched chain ketoacid dehydrogenase deficiency leads to increase in branched chain amino acids leucine, isoleucine and valine. The increase in branched chain amino acids leads to metabolic syndrome x and diabetes mellitus. The increase in branched chain amino acids can also produce immune activation and autoimmune disease. The increase in branched chain amino acids can affect the transport of tryptophan and tyrosine through the neutral amino acid transporter leading to deficiency of monoamine transmission. The branched

chain amino acids can increase NMDA activation producing neuronal excitability contributing to neurodegenerative disorders. The alteration in NMDA and monoamine transmission can lead to neuropsychiatric disease. The branched chain amino acids can increase the muscle bulk and strength contributing to the Neanderthal phenotype. The deficiency of glycine cleavage enzyme - glycine decarboxylase can lead to accumulation of glycine. The branched chain amino acids itself inhibits the glycine cleavage enzyme. The PDH deficiency leads to increased glycolysis contributing to increased phosphoglycerate, phosphoserine and serine synthesis. L serine is converted to D serine by serine racemase. D serine and glycine can increase NMDA transmission contributing to neuropsychiatric diseases like autism and schizophrenia as well as neurodegeneration. Glycine itself is an inhibitory neurotransmitter in the brain. Serine is immune activating contributing to autoimmune disease. Glycine is immunosuppressive. Serine/glycine ratios can modulate immunity and NMDA transmission. Serine can contribute to cell proliferation and cancer. Glycine on the other hand inhibits cell proliferation. Serine by the action serine palmitoyl transferase can generate sphingolipids. Deoxysphingolipids are atherogenic and contribute to the metabolic syndrome x. Thus the 2 oxoacid dehydrogenases - pyruvate dehydrogenase, branched chain ketoacid dehydrogenase and glycine decarboxylase dysfunction in Neanderthals and autism can contribute to neuropsychiatric, neurodegenerative, cancer, autoimmune disease and metabolic syndrome. Alterations in serine/glycine ratios and organic acidurias are seen in autism, schizophrenia, autoimmune disease, tumours, metabolic syndrome and degenerations. As said before the hyperammonemia, porphyria and hyperhomocysteinemia seen in autism and schizophrenia are contributed by Neanderthal genes and Neanderthal metabolism.

Autistic Metabolonomics and Systemic Diseases

The autistic and schizophrenic neanderthalic metabolonomic phenotype is also seen in cancer, autoimmune disease, degeneration, metabolic syndrome x which can coexist with schizophrenia. This is due to a vagal neuropathy due to defective acetyl choline synthesis consequent to lack of substrate acetyl CoA. This also leads to sympathetic over activity. Vagal neuropathy is associated with immune activation and autoimmune disease. Vagal neuropathy can contribute to insulin resistance and increased sympathetic activity to neoplastic transformation. The cholesterol synthetic defect leads to defective synaptogenesis seen in autism and schizophrenia. Cholesterol derived bile acid and vitamin D deficiency can contribute to schizophrenia and autism. Cholesterol is involved in contact inhibition and when the membranes are defective can lead to cell proliferation. Low cholesterol levels lead to low vitamin D and bile acid levels both of which bind to VDR producing immunosuppression. This can contribute to autoimmunity. Vitamin D deficiency can contribute to insulin resistance and metabolic syndrome phenotype in Neanderthals. Bile acids function as hormones regulating lipid and glucose metabolism and its deficiency can also contribute to syndrome x and insulin resistance. The Warburg phenotype can also contribute to civilisational diseases. The increase in mitochondrial PT pore hexokinase can contribute to cell proliferation and cancer. The increase in GAPD (glyceraldehyde 3 phosphate dehydrogenase) can contribute to its ADP ribosylation and nuclear cell death. The increase in glycolysis can contribute to lymphocytes activation and autoimmune diseases. The MHC genes are of Neanderthal origin and autoimmunity is related to Neanderthal MHC alleles. Autoimmunity and antibrain antibodies are characteristic of autism and schizophrenia. The phosphoglycerate, a glycolytic metabolite can be converted to serine a modulator of NMDA receptor and inhibitory neurotransmitter glycine. The

increase in fructose 1,6 diphosphate results in its channelling to the pentose phosphate pathway generating NADPH stimulating NOX and redox stress contributing to disease. NOX is also involved in NMDA activity. Redox stress and increased NMDA activity contributing to thalamo-cortico-thalamic pathway dysfunction is important in schizophrenia. Thus the generation of atavistic archaeal metabolic, immune and neuronal phenotype can contribute to schizophrenia.

Actinidic Archaea and Neanderthal Hybrids

The further global warming related increase in archaeal growth leads to an atavistic archaeal endosymbiotic colony with its own metabolic phenotype.² The archaea are actinide dependent and use cholesterol as an energy substrate. The increased archaeal cholesterol catabolism produces endogenous digoxin synthesis which inhibits membrane sodium potassium ATPase activity leading to increase in intracellular calcium and reduction in intracellular magnesium. Increase in intracellular calcium produces calcified nanoarchaea which can exist for eternity. The nanoarchaea as in the case of *Ignococcus hospitalis* can produce multicellular tissue forms resulting in a atavistic actinidic archaeal colony network within the cell. Reverse transcriptase activity of HERV origin can integrate archaeal genomes into the human genome as has been demonstrated with regard to trypanosomal genomes in Chagas disease. The increased expression of archaeal genes and integrated into human genes as a consequence of oxidative stress produced by global warming and ice age resulting in HDAC inhibition and demethylation. The endogenous archaeal genomes when expressed can lead to archaeal multiplication in the system. The basis of origin of Neanderthal hybrids is expression and multiplication of endogenous archaeal sequences in the genome. The Neanderthals would have evolved due to changes in the non coding area of the primate genome

consequent to integration of archaeal genomes into primate genomes in the ice age. Global warming and cooling has been postulated to lead to increased propagation of extremophilic archaeal colonies. In fact global warming has been related to increased release of methane from multiplying archaeal colonies in the ocean bed. During periods of extreme climate change the extremophilic archaea undergoes expansion not only in the environment but also in the non coding area of the human genome. This by global warming related oxidative stress related HDAC inhibition of reverse transcriptase activation and integrase expression which re-integrate the multiplied archaeal genomes into the human genomes. Homo neanderthalis would have evolved as a consequence of archaeal expansion in the human genome in the ice age and the present increased tendency for expression of Neanderthal autistic hybrid phenotypes would result from the phenomena of archaeal expansion in the human genome produced by global warming. The archaeal expansion would result from civilisational and industrial activity of homo sapien population. This results in increased green house gas emissions and carbon dioxide production leading to environmental and symbiotic archaeal multiplication. Symbiotic archaeal multiplication results in increased archaeal integration into the non coding region of genome and expression of Neanderthal hybrids. The environmental archaeal multiplication results in methanogenesis which accelerates geometrically the global warming enhancing the process already set in motion. The increase in archaeal multiplication and global warming will melt the polar ice caps triggering massive floods and catastrophic extinctions. The multiplication of archaea in the ocean beds can trigger earth quakes in the ocean beds and massive tsunamis and floods land continental break down. The cycle of Yugas described in vedic mythology would be a consequence of climate change related catastrophic extinctions and subsequent regeneration of life. The actinidic archaea also being extremophilic can inhabit the intergalactic spaces

contributing to intergalactic magnetic fields whose rotation which leads to evolution of star systems. Seeding of life on earth would have come out of asteroids transporting the actinidic archaea into the earth. This would have led to subsequent evolution of the multicellular organism, primates and later on Neanderthal groups. The homo neanderthalis have the APOBEC phenotype which makes them resistant to retroviral infections and the HERV load in the Neanderthal genome is less. The increased archaeal growth and cholesterol catabolism in Neanderthals, schizophrenic and autistic phenotypes lead to increased endogenous digoxin synthesis. Digoxin produces sodium potassium ATPase inhibition and magnesium deficiency intracellularly. Magnesium deficiency inhibits reverse transcriptase activity and HERV expression. Therefore retroviral expression, multiplication and integration into the genome is defective in Neanderthals, autism and schizophrenia. This leads to less dynamicity and fluidity of the Neanderthal genome leading to defective synaptic connectivity, large sized brains and smaller prefrontal cortex. The deficient synaptic connectivity occurs due to two factors. The cholesterol synthesis is less and the glial cholesterol secretion acts as a trophic factor for synaptogenesis. The HERV expression leads onto jumping genes which are responsible for the fluidity and dynamicity of the genome required for the development complex large neuronal networks. This leads to the development of large brain size as in autism and Neanderthals. The cerebral cortex and cerebellum are both large. The cerebellum contains 50 percent of the neurons in the brain. Therefore, in the absence of complex neuronal networks in the cerebral cortex especially prefrontal cortex the cerebellum become dominant and function as the master of the brain. The homo sapiens lack the APOBEC phenotype and retroviral resistance. The homo sapiens did not have archaeal overgrowth, cholesterol catabolism and digoxin synthesis. There was no digoxin induced reverse transcriptase inhibition. The HERV expression and its integration into the

genome via reverse transcriptase activity led to increase in non coding region of the genome. Retroviral epidemics in African primates contributed to the evolution of homo sapiens and their brain in Africa. The homo sapiens evolved consequent to expansion of HERV sequences in the genome consequent to persistent retroviral infections in African primates. The increase in HERV sequences in the primate genome led to increased fluidity and dynamic nature of the genome leading to development of a dominant prefrontal cortex and limbic lobe. The synaptic connectivity required for the formation of complex neuronal networks based on a dynamic genome modulated by HERV jumping genes were present in the homo sapien brain. This resulted in a trim and lean but more efficient and logical brain with dominant prefrontal cortex function. The cerebellar function was inhibited with predominant control over motor functions. The increase in electromagnetic wave pollution due to internet addiction and persistent usage leads to prefrontal cortical atrophy. This leads to reversion to cerebellar dominance in the homo sapien brain and wide spread increasing incidence of autism, schizophrenia, obsessive compulsive neurosis, sexual addiction syndrome, attention deficit hyperactivity disorders and dyslexias. The lack of APOBEC phenotype in the homo sapiens and the development of resistant retroviral strains would lead to extinction of the homo sapiens species. In addition the global warming can lead to oxidative stress, HDAC inhibition, demethylation and HERV expression leading to reconstitution of retroviruses in the system contributing to the acquired immunodeficiency syndrome. HERV expression in the human genome non coding area has been related to autism and schizophrenia. The development of resistant retroviral infections and the global warming related archaeal multiplication would lead to extermination of the homo sapiens species with its non coding area of genome contributed by HERV sequences. They will get replaced by Neanderthal hybrids with the non coding region of the genome contributed by integrated archaeal sequence which

multiply an increase in length owing to global warming. The multiplying symbiotic and environmental archaea will further contribute to increase global warming, further increased archaeal multiplication and dominance of Neanderthal hybrids in the world. The archaeal metabolism of cholesterol results in low cholesterol levels contributing to sex hormone deficiency, falling reproductive rates and extinction of Neanderthal hybrids generated.

Actinidic Archaeal Metabolism and Autism

The actinidic archaea have cholesterol ring oxidase activity generating pyruvate, side chain oxidase activity generating butyrate and propionate, aromatase activity generating the PAH ring and beta hydroxy steroid dehydrogenase activity generating the glycosidic digoxin and steroidal bile acids. The endogenous digoxin is archaeal in origin as the glycosidic sugars are not synthesized by the human cell. The glycoside digoxin can regulate neural function, immune function and endocrine function. Endogenous digoxin produces sodium potassium ATPase inhibition resulting in increase in intracellular calcium and reduction in intracellular magnesium. Digoxin can modulate intracellular calcium/magnesium ratios increasing cellular calcium and depleting cellular magnesium. Magnesium deficiency inhibits the glycolytic enzymes, tricarboxylic TCA cycle enzymes and mitochondrial ATP synthase. The increase in intracellular calcium can modulate mitochondrial PT pore and its function. The magnesium deficiency can inhibit DNA and RNA polymerase function as well as reverse transcriptase activity. The HERV genes are not expressed and this affects the jumping genes contributing to the dynamicity and fluidity of the genome. HERV gene expression mediated genomic fluidity is required for the generation of complex neuronal networks and immune genes especially the HLA genes. This leads to defective development of the prefrontal cortex and its connections as well as immune mechanisms contributing to

autoimmune diseases. Thus digoxin can inhibit genomic function. The digoxin induced intracellular magnesium deficiency results in ribosomal disintegration and defective protein synthesis. The PDH blockade results in defective generation of acetyl CoA resulting in reduced synthesis of cholesterol and fatty acids. Fatty acid oxidation and ketogenesis is also inhibited by magnesium deficiency related mitochondrial ATP synthase dysfunction. The actinidic archaeal multicellular network through digoxin secretion effectively blocks and shuts down all aspects of cell metabolism. The cellular energetic depends upon sodium potassium ATPase mediated membrane ATP synthesis. The cell requirement of ATP comes down as the membrane sodium pump is inhibited and all metabolic pathways are blocked. The cell goes into hibernation. The human cell, tissues and organ systems functions as a zombie. The cell is taken over by the atavistic multicellular actinidic archaeal colony. The actinidic archaeal metabolism survives. As fatty acid, glucose and amino acid metabolism is inhibited the glucose, fatty acids and amino acids accumulate in the cell and is used for actinidic archaeal metabolic pathways. This is exemplified by increase in actinide catalysed hexokinase activity, mitochondrial ATP synthase activity, membrane sodium potassium ATPase mediated ATP synthesis and cholesterol oxidase - side chain oxidase, ring oxidase, ring aromatase, beta hydroxy steroid dehydrogenase and cholesterol 7 alpha hydroxylase activity. The archaeal shikimic acid pathway synthesizes tyrosine and tryptophan derived neurotransmitters and neuroalkaloids. The shikimic acid pathway can synthesize dopamine, norepinephrine and serotonin as well as neuroalkaloids - morphine, nicotine and strychnine as has been demonstrated from this laboratory. The atavistic archaeal metabolism using cholesterol as energy substrates and actinides as catalyst takes over the cell. The human cell which goes into hibernation functions as a zombie with the multicellular actinidic archaeal colony taking over the cell and the body. Digoxin can

produce cell death by calcium mediated mitochondrial PT pore dysfunction and cell proliferation by increased intracellular calcium activating RAS oncogene. Digoxin by modulating sodium potassium ATPase can regulate cell membrane and nuclear membrane transport. Digoxin can modulate NFkB function by increase in intracellular calcium and produce immune activation. Digoxin by altering intracellular calcium/magnesium ratios can modulate G protein coupled and protein tyrosine kinase related neurotransmitter and endocrine receptors. Hyperdigoxinemia has been related to autism. Butyrate functions as a HDAC inhibitor regulating genomic function and also producing immunosuppression. Butyrate mediated altered genomic function can contribute to autism. Propionate can contribute to organic acidurias. Propionate can produce NMDA activation, increased monoamine transmission produce immunosuppression and modulate synaptic transmission. Pyruvate is also immunosuppressive, regulates insulin secretion and functions as an antioxidant. PAH can modulate AHR receptor function regulating cell proliferation and immunity. PAH and AHR receptor activation can affect brain function leading onto autism and ADHD. Cholesterol oxidase activity can generate H_2O_2 and redox stress modulating cell function. Redox stress is related to autism. The archaea can generate magnetite modulating magnetoperception and extrasensory perception important in autism. Thus the archaeal cholesterol catabolism can regulate genetic, immune, metabolic, endocrine and neural functions producing an atavistic phenotype. This atavistic archaeal colony functions as a new phenotype leading to autism. Climate change leads to global warming and increase in extremophilic archaeal growth. This leads onto autistic and schizophrenic metabolic patterns and increased incidence of civilisational diseases. The human body is taken over by the atavistic archaeal colonial phenotype leading to a zombie syndrome. There is a body change, mind change and cultural change akin to climate change. This leads onto neanderthalisation of the human species.

Autism, Schizophrenia and Neanderthal Hybrid Brains

The increase in archaeological growth and autistic metabolic patterns leads to autistic, cultural, neural and linguistic atavistic phenotypes. Low cholesterol values are characteristic of autistic brains. Low cholesterol levels can contribute to defective synaptogenesis as cholesterol is a trophic factor for synaptogenesis. This leads to reactive brain hypertrophy and neocortical dysfunction. The Neanderthals had large stout bodies and motor movements were an important part of their hunter gatherer life style. This also was associated with larger eyes and a highly defined visual system important in their hunter gatherer life style. This would also have been associated with a prominent pineal gland with its retinal connections for regulation of diurnal rhythms and geomagnetic field modulation of body function. The Neanderthal brain was larger in size but the major part of the brain was associated with regulation of motor movements and vision crucial for their hunter gatherer life style. The importance of motor movements and the large body size of the Neanderthals contributed to a prominent motor cortex and parietal lobe. The visual cortex also occupied a major part of the cerebral cortex in view of the importance of vision for hunter gatherer lifestyle. The visual, gustatory, auditory and sensory cortex were dominant leading to a predominance of sensory perception regulating life or a civilization of senses. Sensual satisfaction becomes the dominant theme in life. The bile acids important in forming large social groups were binding to olfactory GPCR receptors producing limbic lobe stimulation was deficient. The limbic lobe areas of hippocampus, and prefrontal cortex were ill developed. The prefrontal cortex concerned with social interaction, executive decisions, judgment and social networking was small. Therefore the Neanderthals never formed large social clusters but only small matriarchal groups. The Neanderthals never formed large national groups as the prefrontal cortex concerned with logical higher level executive interactions was small. The

language area of the brain was not developed and the linguistic substrates of the nation states was also lacking. This results in lack of nation states among Neanderthal population and states of war. The motor cortex, the cerebellar cortex controlling coordination and the visual cortex were dominant. The cerebellar cortex was more dominant as compared to the cerebral cortex. The Neanderthal brain had cerebellar dominance. The bulk of the cerebellar function was cognitory and motor regulation. The cerebellum is concerned with impulsive behaviour, disinhibited states, obsessive compulsive states, paranoid states, childish naive behaviour, ritualized behaviour and stereotyped repetitive behaviour. The cerebellum is concerned with hypometric and hypermetric states and produces dysmetria of thought. The cerebellar vermis is concerned with emotional behaviour. The posterior cerebellum is predominantly cognitory. The anterior cerebellum is concerned with motor regulation. Right cerebellum is connected to the left cerebral hemisphere and left cerebellum is connected to the right cerebral hemisphere. Through the phenomena of diaschisis cerebral cortical atrophy leads to cerebellar atrophy. Thus if the cerebellum is not developed in the fetus the cerebral cortex does not develop. The dorsolateral prefrontal cortex development depends upon cerebellar development. In the context of defective cerebellar development the prefrontal cortex fails to develop. The cerebellum is in fact more important than the cerebral cortex and contains 50 percent of the neurons of the brain. The cerebral cortical and cerebellar function can be compared as conscious versus unconscious, dream versus wake and logical versus intuitive. It can also be compared as patriarchal cerebral cortex versus matriarchal cerebellar cortex as well as commonsensical cerebral cortex versus magical cerebellar cortex. The cerebral cortex can be considered as the HERV modulated brain and the cerebellar cortex can be considered as archaeal modulated brain. As said before, the atavistic archaeal colony network secretes digoxin and neuronal cell goes into metabolic and

functional hibernation. The atavistic actinidic archaeal colony network functions as an information sensing and processing network which also has a capacity of social intelligence. The archaeal colony network has got magnetite capable of magnetoperception and quantal perception. Actinidic archaeal colony mediated quantal perception becomes the dominant form of perception as the neuronal cells goes into metabolic and functional hibernation induced by digoxin. The conscious perception modulated by the thalamo-cortico-thalamic pathway becomes dysfunctional and is replaced by magnetoperception/quantal perception mediated by digoxin induced pumped phonon system involving in dipolar magnetite and porphyrins. The porphyrin and magnetite induced quantal perception can contribute to wave forms of the atavistic archaeal colony network generating macromolecular quantal states. The porphyrins and magnetite are dipolar molecules and can lead onto macroscopic quantal states. Extrasensory perceptual modes are dominant in autism and schizophrenia. The magnetite and archaeal porphyrins are dipolar and in the presence of digoxin induced sodium potassium ATPase inhibition can create pumped phonon states required for quantal perception. The porphyrins which are synthesized more in autism and schizophrenia contribute to extrasensory perception. Extrasensory quantal perception is dominant in autism and schizophrenia. In the quantal state everything exists as unlimited probabilities and it is the conscious observer that brings one of the probabilities into one graviton criteria and consciousness. The multiple probabilities in the quantal states according to the many world interpretation can exist in multiple universes or multiverses at the same time. Thus the quantal brain modulated by the actinidic archaeal colony is eternal and can exist for ever. This forms the basis of the biocentric theory of the universe producing a unified explanation for all phenomena. The world exists because of consciousness. The universe is basically biological. The actinidic nanoarchaea are extremophilic and can exist in the intergalactic space contributing to the

spiral intergalactic magnetic fields whose rotation leads to the evolution of star systems and planets. Life itself would have an actinidic origin formed on actinidic substrates by abiogenesis. The quantal brain function and quantal phenomena like quantal crystal diffraction gradient can lead onto the origin of the material world.

The cerebellum is concerned with extrasensory perception and trance like hypnotic states. The cerebellum is involved in out of the body experience and magical states. Spiritual experiences and magical experiences as well as dream like states are also mediated via the cerebellum. The cerebellum is dominant for intuition. Intuitive phenomenon is the basis of creativity and can be called as sixth sense. The cerebellum is involved in telepathy, telekinesis and poltergeist phenomena. Quantal perception is also dominant in the cerebellum as 50 percent of the neurons in the brain are in the cerebellum and the atavistic actinidic archaeal colony network is basically lodged in cerebellum. Quantal perception can lead to communication with the animals and plants. Magnetoperception and quantal perception would have generated a feeling of oneness of humans, nature and animals contributing to a spiritual experience. Magnetoperception and porphyrins are involved in sensing of geomagnetic fields. This leads onto a feeling of oneness with nature and group. This leads onto group consciousness, group identity and group motherhood characteristic of Neanderthal clusters. There is no individual identity which is replaced with group identity. This would have contributed to a magical civilization of dreams. This would have generated a pagan culture. The prominent pineal gland would have led to dominant geomagnetic and solar perception leading to a greater level of spirituality. Thus the dominant extrasensory quantal perceptive modes in the Neanderthal brain would have led to a world of dreams in quantal foam where the material world merged with the world of quantal waves. This would have led to a sense of oneness with the world or a feeling of God which can be aptly described

as the world of Maya. This can lead onto increase sense of spirituality in the Neanderthal groups. Since the prefrontal and temporal cognitive cortex was small and dysfunctional extrasensory perception dominated. The Neanderthal brain had an atavistic archaeal colony network. The archaeal magnetite induced magnetoperception and group consciousness. The atavistic archaeal colony network has magnetite and actinide mediated magnetoperception in autism. They also had non-local communication and telepathic abilities. Quantal perception was more dominant compared to conscious perception. This leads onto dominance of unconscious over conscious function. This contributes to a dreamy shamanic trance like states leading to spiritual experience. Magnetoperception and quantal perception can contribute to perceiving nature and environmental consciousness. Neocortical function is defective due to defective synaptogenesis. Brain function is more intuitive than logical. There is more of emotional behaviour than logical behaviour. There is more of dreamy trance like spiritual states than wakeful states. The population lives in dreamy, hallucinatory state. Extrasensory perception contributes to spiritual experience in autism and Neanderthals. The conversion of ketone bodies derived from ketogenic diet to the neurotransmitter GABA and hydroxybutyric acid would have contributed to stimulation of inhibitory transmission in the brain and docile, spiritual behaviour of Neanderthal societies. Quantal perception and magnetoperception leads to the phenomena of social networking with equality among all people participating in the network and without a leader. Such social networking behaviour have led to rapid social revolutions in recent times as in Egypt and northern Africa. Social networking groups linked by quantal perceptive modes become the basis of society. The family, the caste and religious hierarchies dissolves giving way to more gender equal and social equal networking groups based on quantal perception or magnetoperception.

Neocortical dysfunction contributes to defective vocalization in Neanderthals. They also had a highly placed larynx contributing to disordered symmetry between swallowing and breathing leading to evolution of linguistics characteristic of Dravidian language lacking quantal vowels. Language development and communication skills decline with more of gestural and extrasensory communication. Vocal language spoken and written becomes less and less widely used. The use of gestural and communicative music and dance becomes dominant in replacement to written and spoken speech. The cerebellum is important with regard to speech. Word selection, grammar, prosody and gestures depend on the cerebellum. Cerebellar dominance leads to defective language usage, autism and dyslexias. Symbolic gestural communicative forms and trances have been described in art forms of Kerala exemplified by Kathakali and Theyyams.¹⁰ Speech defects are hallmark of autism. This leads onto widespread generation of autistic brain phenotypes in the community. The cerebellum though was large was predominantly cognitory. This leads to decreased efficiency of motor function of the cerebellum leading onto a functional cerebellar syndrome. The Neanderthal movements were clumsy owing to cerebellar dysfunction as happens in autism. The cerebellar speech staccato, explosive, incoordinate and slurred. This can lead onto a musical quality for speech. The frontal cortical dysfunction leads to ecolalia and repetitive. This would have lead to the origin of music. The Neanderthal language would have been predominantly musical. The appendicular incoordination leads to appendicular ataxia. This leads onto the creation of vague abstract forms of drawing. This would have been the genesis of the abstract art. The written language of the Neanderthals as in the case of Dravidian Harappans was predominantly as pictorial scripts or hieroglyphics. Abstract art originated in the Basque community with leading figures like Picasso and Dali generated from them. The cerebellar appendicular ataxia also

leads to ataxic gait leading to generation of dance forms. Symbolic dance forms of Theyyam and Kathakali in Kerala are representative of this. The frontal cortical dysfunction also leads to ecopraxia or repetition of motor acts. Repetitive cerebellar and frontal cortical dysfunction related ataxic movements would have been the origin of dance forms. Dominant cerebellar function contributes to the development of religious rituals, music and dance. The archetypes of the unconscious common to all civilizations also have their substratum in the cerebellum. Neanderthal music, art and dance were a form of spiritual worship in communion with nature as a part of environmental consciousness. Repetitive and ritualized motor acts as a part of spiritual worship would have been generated by prefrontal cortex and cerebellar dysfunction. The increased exposure to the low level electromagnetic fields due to increase in internet usage in the current population also leads to atrophy of the prefrontal cortex leading to dominance of parietal, motor and visual cortex. This creates a Neanderthal like brain in people with internet addiction and over usage which is widespread in the modern world. The shrinkage of the prefrontal cortex and its dopaminergic pathways linking to the basal ganglia is the basis of drug, sexual and sugar addiction. Addictive behaviours were common in the Neanderthal population with usage of drugs like ephedra for creating shamanic states. Similar addictive behaviour is common in population overexposed to low level electromagnetic fields generated by internet usage and resultant prefrontal cortex shrinkage. The cerebellar dominance leads to increased incidence of schizophrenia, autism, dyslexia, ADHD, obsessive compulsive disorder and sexual addiction syndromes. The cerebellar size is related to estrogen and testosterone levels and cerebellar dysfunction can contribute to sexual deviant obsessive traits. Thus cerebellar dominance leads to dysmetria of motion and dysmetria of thought leading to dominant quantal perceptive mode. Cerebellar

dominant individuals are creative, autistic savants and geniuses but are clumsy with routine motor acts due to dysmetria of motion.

Increasing Incidence of Autism, Actinidic Archaea and Global Warming

The rising incidence of autism can be related to global warming related archaeal growth in the brain and low EMF exposure due to increased internet usage. The increase in homo sapien growth and increased industrial pollution and global warming leads to archaeal overgrowth and neanderthalisation of the brain leading to return of the magical world. This also would result from increased electromagnetic pollution and internet usage leading onto prefrontal cortex atrophy and autistic brain dominance. There would be a return to the dreamy world of the Neanderthals. The increase in archaeal growth in the oceans would also increase methanogenesis and global warming as also contribute to quakes in the ocean bed, leading to Tsunamis. The global warming would lead to melting of the ice caps of the earth and flooding leading to eventual extinction of the world population. In addition the low cholesterol levels and low sex hormone levels would lead to an asexual gender equal world with aberrant sexual behaviour and decreased reproductive rates contributing to population extinction. This would be the basis of the theories of Kali yuga, and end of the world in mythologies. The quantal magical world of the Neanderthals would persist. Vitamin D deficiency can produce abnormalities in brain synaptogenesis and growth. Macrocephaly and large sized brains are seen in autism and Neanderthals.¹¹ The Neanderthal have been postulated to have the APOBEC3G phenotype producing retroviral resistance as in Dravidian related Australian aboriginals.⁹ The Neanderthal hybrids are resistant to retroviral infections and have less of HERV load in the genome. The homo sapiens lack the APOBEC phenotype and are more susceptible to retroviral infections producing increased integration of HERV into the genome. HERV integration

into the genome produces jumping genes and a dynamic genome. This dynamic genome is important in generation of complex synaptic networks and HLA phenotypes. This leads to the smaller size brain with increase in prefrontal cortex and autoimmunity in the homo sapiens unlike the Eurasian Neanderthal phenotype. The homo sapien brain with its prefrontal cortex dominance and smaller size is a consequence of HERV expression in contrast to the large sized Neanderthal brain with smaller prefrontal cortex which is induced by endosymbiotic archaeal over growth. The increased cholesterol levels and bile acid levels in homo sapiens resulted in bile acid binding to olfactory GPCR receptors and limbic lobe stimulation. This resulted in prefrontal cortex and temporal cortex hypertrophy. The homo sapien brain was dominated by the large prefrontal cortex which was required for executive, logical, reasoning and questioning ability. This led onto the world of logic and reason. The homo sapien brain was dominated by a web of synaptic connections produced by HERV expression mediated dynamic genome. The prefrontal cortical dominance led to the evolution of large social groups and nation states. The evolution of language areas in the frontoparietal cortex developed into linguistic substrates of nation states. This resulted in lack of global consciousness and genesis of the idea of war between nations and persecution of linguistic groups or nations. This was a logical brain as compared to the intuitive and spiritual brain of the Neanderthals. The loss of extrasensory quantal perceptive modes of the homo sapien brain led to decreased communion with plants, animals and nature leading to decreased environmental consciousness in the Western homo sapien civilization. Homo sapiens alone were considered to have the life force of soul and the plant and animal kingdom was outside the pale of spirituality. The loss of environmental consciousness and spirituality resulted in environmental destruction and global warming. The communion with nature was lost and life became mechanical, logical and commonsensical. The magical

dreamy trance like world of the Neanderthal brain was lost. This arose with the dominance of the Western Christian civilization. The dreamy trance like world of the hermetic faiths - Kabbala, Shamanism, Paganism, Hinduism, Taoism, Shintoism and Gnostic Christianity was lost with loss of the Neanderthal structure of the brain. The archaeal overgrowth related changes in the brain and development of Neanderthal hybrids contribute to schizophrenia and autism.

Neanderthal Hybrids and Endocrine Function

Low cholesterol leads to low testosterone and estrogen levels and defective sex hormone modulation of brain function and growth. This would lead to defective stress response and sexual reproductive rates leading to eventual extinction of the Neanderthal population. Low testosterone levels and estrogen levels would lead to less defined asexual phenotypes, lack of male dominance, gender equality and matriarchal societies with group motherhood. This is the basis of the matriarchal cultural phenotype with lack of male dominance. The low sex hormone levels would lead to low maturity rates seen in fossil specimens of characteristic of Neanderthals. Bile acids bind to the olfactory receptors and lead to limbic lobe stimulation and family bonding as well as bonding between individual mother and child. The group motherhood characteristic of matriarchy would be a reflection of low bile acid levels. The low bile acid levels leads to less family bonding. This contributes to autistic behaviour. There is no family bonding which gets replaced with common motherhood. This fits in with the grandmother hypothesis with dominant females regulating the society. The society becomes more gender equal with its astereotyped asexual behavioural patterns common in autism. These phenomena can lead to globalization, loss of national identity, loss of sexual identity and universalisation of behaviour and thought.¹²⁻¹⁵ The homo sapiens had higher cholesterol levels leading to higher levels of sex hormone synthesis - testosterone and estrogen. This lead to the development of a male dominant

patriarchal society in homo sapiens. The females were suppressed and were not allowed any rights and subjected to the rigid social codes enforced by the male dominant patriarchy. The sexual behaviour was also more towards conservative forms with aberrations being considered as illegal. The homo sapien society gender unequal society. The increased cholesterol and bile acid levels led to increase in family bonding and family as a basic structure of society. The child was identified with the father and his family. The concept of nuclear family got strengthened in the homo sapien group. The group community feeling and group motherhood of the matriarchal Neanderthal society was lost. Neanderthal societies with its group motherhood, group consciousness, gender equality and togetherness were akin to a primitive form of communist society. This postulate has been put forward by Engels in his thesis 'The Mothers'. The Neanderthal society because of its group consciousness was more of a primitive communist or socialistic society and paganistic. The lack of sex hormone modulation of brain function in Neanderthal hybrids can contribute to schizophrenia and autism.

Neanderthal Hybrids, Actinidic Archaea and Civilisational Disease - Cancer, Metabolic Syndrome X, Autoimmune Disease and Neurodegeneration

The human cell and tissues go into hibernation mediated by the actinidic archaeal colony secreted digoxin. The DNA polymerase, RNA polymerase, ribosomal function, fatty acid oxidation, glycolysis, TCA cycle, mitochondrial oxidative phosphorylation and cholesterol/fatty acid synthesis gets shut down owing to archaeal digoxin induced magnesium deficiency. The human cell and tissues go into hibernation with the energy for survival produced by membrane sodium potassium ATPase mediated ATP synthesis. The actinidic archaea forms a multicellular colony/network which takes over the human cell and tissues which are reduced to a zombie in hibernation. This produces a human zombie syndrome. The glucose, fatty acids and amino acids accumulate in the cell as the metabolic

and catabolic pathways are blocked. The actinidic archaeal metabolic using actinide catalysis takes over. Actinide dependent hexokinase activity and mitochondrial ATP synthase activity as well as cholesterol oxidase activity has been described in systemic disorders. The hyperglycemia generated due to actinidic archaea secreted digoxin induced block in glucose catabolism leads to diabetes mellitus. Endogenous digoxin leads to increase in vascular smooth muscle calcium, vasospasm and vascular thrombosis. The actinidic archaeal atavistic network and colony grows into neoplasms and cancer. The actinidic archaeal colony generated digoxin shuts down the metabolic machinery of the neuronal cell and over a period of time lead to cell death contributing to neurodegenerative disorders like Parkinson's disease, Alzheimer's disease and motor neuron disease. The actinidic archaeal colony secreted digoxin shuts down the neuronal metabolic machinery and synaptic networks resulting in dominance of quantal and magnetoperception. Quantal and magnetoperception is mediated by digoxin induced dipolar magnetite and archaeal porphyrins pumped phonon system. As the cerebellum contains 50 percent of the neurons in the brain the cerebellar magnetoperception and quantal perception dominates. The cerebellum becomes dominant. Cerebellar dominance can also occur due to electromagnetic pollution and wider internet usage. Low level of EMF is perceived by magnetite in the brain. This leads to prefrontal cortical atrophy and cerebellar dominance. Cerebellar dominance has been related to autism, schizophrenia, OCD, ADHD, sexual deviant traits and naïve childhood type disinhibited, impulsive behaviour. The atavistic archaeal colony network takes over the body and tissues. This leads to immune activation, generation of autoantigens as the human body tries to fight the invading archaeal atavistic colony. This leads to autoimmune disease like lupus, multiple sclerosis and rheumatoid arthritis. The archaeal atavistic colony generated digoxin blocks reverse transcriptase activity and retroviral multiplication and integration. This leads to resistance to retroviral infection. The

defective HERV expression leads to defective jumping genes and HLA genes contributing to autoimmune disease. The MHC genes are of Neanderthal origin and autoimmunity is related to Neanderthal MHC alleles. Autoimmunity and antibrain antibodies are characteristic of autism. Autism and schizophrenia is associated with systemic disorders. The autistic metabolomic phenotype is also seen in cancer, autoimmune disease, degeneration, metabolic syndrome x and schizophrenia. This is due to a vagal neuropathy due to defective acetyl choline synthesis consequent to lack of substrate acetyl CoA. This also leads to sympathetic over activity. Vagal neuropathy is associated with immune activation and autoimmune disease. Vagal neuropathy can contribute to insulin resistance and increased sympathetic activity to neoplastic transformation. The cholesterol synthetic defect leads to defective synaptogenesis seen in autism and schizophrenia. Cholesterol derived bile acid and vitamin D deficiency can contribute to schizophrenia and autism. Cholesterol is involved in contact inhibition and when the membranes are defective can lead to cell proliferation. Low cholesterol levels lead to low vitamin D and bile acid levels both of which bind to VDR producing immunosuppression. This can contribute to autoimmunity. Vitamin D deficiency can contribute to insulin resistance and metabolic syndrome phenotype in Neanderthals. Bile acids function as hormones regulating lipid and glucose metabolism and its deficiency can also contribute to syndrome x and insulin resistance. Thus the generation of atavistic archaeal colony/network leads to a new metabolic, immune and neuronal phenotype taking over the human body contributing to civilisational diseases like cancer, degenerations, autoimmune disease and metabolic syndrome x which are showing an epidemic increase in incidence like autism. The human body goes to hibernation and death as a zombie taken over by the actinidic archaeal colony network which rules over the human brain, organ systems, tissues and cell. The age of Neanderthals blooms again with its catastrophic consequences.

Conclusion

The results suggest neanderthalisation of the humans due to global warming and archaeal growth. The neanderthalisation of the human species is the basis of the global autistic, schizophrenic and civilisational disease epidemic - epidemic Neanderthal hybrid zombie syndrome. The matrilineal societies are fossilized Neanderthal remnants and neoneanderthal hybrids contribute to civilisational diseases. There is a mind change, linguistic change, cultural change, social change and spiritual change akin to climate change owing to increased archaeal growth as a consequence of global warming. The Neanderthal species evolved during periods of extreme climate change of the Ice age which led to increased extremophilic endosymbiotic archaeal growth. A similar extreme climate phenomenon of global warming is a feature of our current existence. This leads to increased extremophilic endosymbiotic archaeal growth and neanderthalisation of the population. Low cholesterol levels and low sex hormone levels would lead to asexual phenotypes and eventual population extinction. A new human species homo archaeax neanderthalis with its new anthropometric, metabolic, cultural, linguistic, neural, psychological and genetic atavistic phenotype is evolving.¹⁶ The neanderthalisation of the human species is the basis of the global autistic, schizophrenic and civilisational disease epidemic - epidemic Neanderthal hybrid zombie syndrome. The matrilineal societies are fossilized Neanderthal remnants and neoneanderthal hybrids contribute to civilisational diseases. The Neanderthal hybrids will eventually replace the homo sapien species.

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 2

**Actinidic Archaea, Digoxin Synthesis and
Neanderthalisation - A Biological Theory of
Socio-Political, Spiritual, Sexual and Cultural Identity**

Introduction

Actinidic archaea has been related to global warming and human diseases especially neuropsychiatric disorder. 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 neuropsychiatric disorder especially the Warburg phenotype and hyperdigoxinemia. Digoxin produced by archaeal cholesterol catabolism produces neanderthalisation. Prefrontal cortical atrophy and cerebellar hyperplasia has been related to neuropsychiatric disorder. Digoxin produces intracellular magnesium deficiency and reverse transcriptase inhibition. This blocks retroviral replication and its integration into the genome. This reduces the flexibility and dynamicity of the genome. Endogenous retroviral sequence induced jumping genes contributes to the flexibility and dynamicity of the genome required for generation of synaptic connectivity in the prefrontal cortex. The inhibition of endogenous retroviral expression and integration by digoxin leads to atrophy of the prefrontal cortex. The cerebellum becomes dominant and can be considered as an endosymbiotic archaeal network. The cerebellar dominance leads to more of extrasensory perception, quantal perception, impulsive behaviour and sense of oneness with the world around us. Cerebellar dominance also leads to dysautonomia with sympathetic hyperactivity and parasympathetic neuropathy in these disorders. Actinidic archaeal related cerebellar dominance leads to changes in brain function. This produces a new sociopolitical, spiritual, sexual and cultural phenotype.¹⁻¹⁶ The data is described in this paper.

Materials and Methods

Fifteen cases, each of neuropsychiatric disorder 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 over activity 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 activity | Neanderthal phenotype | Low index finger-ring finger ratio |
|----------------|--------------------|-----------------------|------------------------------------|
| Schizophrenia | 69% | 75% | 65% |
| Autism | 80% | 75% | 72% |
| 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% |
| Internet users | 74% | 84% | 82% |

Discussion

Neanderthal metabolonomics contribute to the generation of a new socio-political, spiritual, sexual and cultural phenotype and pathogenesis of schizophrenia/autism. 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. Digoxin produces intracellular magnesium deficiency and reverse transcriptase inhibition. This blocks retroviral replication and its integration into the genome. This reduces the flexibility and dynamicity of the genome. Endogenous retroviral sequence induced jumping genes contributes to the flexibility and dynamicity of the genome required for generation of synaptic connectivity in the prefrontal cortex. The inhibition of endogenous retroviral expression and integration by digoxin leads to atrophy of the prefrontal cortex. The cerebellum becomes dominant and can be considered as an endosymbiotic archaeal network. The cerebellar dominance leads to more of extrasensory perception, quantal perception, impulsive behaviour and sense of oneness with the world around us. Neanderthalisation of the mind thus leads to cerebellar dominance and prefrontal cortex atrophy. This leads to dysautonomia with parasympathetic neuropathy and sympathetic hyperactivity. This produces a new socio-political, spiritual, sexual and cultural phenotype.

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 catabolizing 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.

The neanderthalic brain had predominant quantal perception and extrasensory communication leading to oneness of society. This contributed to a just and equal society with compassion and altruism. This can be thought of as a beginning of a primitive socialistic or communistic society with equal rights for all and sharing of wealth in the community. The neoneanderthal society had a collective unconscious contributing to an equal, liberal and socialistic society. The archaeal cholesterol metabolism leads to depletion of cholesterol and deficiency of sex hormones. This leads to an asexual state with equality of both males and females or a female dominance. This leads onto androgynous behaviour and new alternate sexual identities. The neoneanderthal society is matriarchal with female leadership and dominance. Matriarchy and feminine dominance is the hall mark of neoneanderthal society. The dominant extrasensory perception and quantal perception leads to appreciation of the vacancy of the universe and a sense of God. This fulfils the concept of Maya and oneness of everything in the universe according to Hindu philosophy. The vacancy consequent to quantal perception gives a feeling of perception of God. The God concept probably evolved out of this quantal perception. The information stored in the brain functioning as a quantal computer exists as multiple possibilities in multiverse universes. The extinction of one possibility in earth doesn't foreclose the existence of the other possibilities in the quantal state in other universes. This leads to the concept of universal eternal existence and reincarnation described in Hindu philosophy and the illusory nature of

death. There is eternal existence in the multiverse quantal universe. This leads onto an extreme spiritual society with a feeling of oneness generated by the collective unconscious consequent to quantal perception. The oneness is also shared with the environment contributing to eco-spirituality and environmental consciousness.

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 contribute 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 per cent dominant hybrids who tend to have schizophrenic and autistic qualities and contribute to creativity of civilisation. This can be called as a schizophrenic or autistic human tribe. 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 archaical 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.

The Neanderthals consuming a glucogenic diet produces increased glycolysis in the setting of PDH inhibition. This produces the Warburg phenotype. 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. 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. 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 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. This can produce digoxin induced neuro-immuno-endocrine integration. Digoxin functions as a Neanderthal master hormone.

The actinidic archaea are cholesterol catabolizing 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 catabolizing enzymes generating more of testosterone than estrogens. This contributes to estrogen deficiency and testosterone over activity. The Neanderthal population 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. This is the basis of neoneanderthal matriarchy.

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 produces a new socio-political, spiritual, sexual and cultural phenotype.

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 3

The Modern Neanderthal Civilisation and the Cromagnon Neanderthal Conflict - Evidence from Human Biology

Introduction

The extremes of climate change produce endosymbiotic archaeal growth. The archaea are cholesterol catabolizing organism. This results in neanderthalisation of the human species. This occurred during the ice age and is possibly a continuing phenomenon during the periods of global warming. The homo neanderthalis are matrilineal and the residual matrilineal societies of the Dravidians, Semites, Basques, Celts and Berbers are neanderthalic. The global warming produces endosymbiotic archaeal growth and neanderthalisation. This produces brain changes with the cerebral cortex becoming dysfunctional and cerebellum becoming dominant. This is due to increased perception of low level EMF by archaeal magnetite. This produces changes in human society, behaviour and disease patterns.¹⁻¹⁷

There is a high incidence of autism and Neanderthal anthropometric phenotypes in the Nair community of Kerala. The Nair community is matrilineal and is one of the few functional matriarchies in the world and speaks the Dravidian language with similarities to Celtic, Scythian, Berber and Basque societies. The autistic brain is comparable to the large sized Neanderthal brain. Autistic and matrilineal societies like Nair can be considered as fossilized remnants of the Neanderthal population. Endosymbiotic actinidic archaea using cholesterol as an energy substrate has been described in systemic disease from our laboratory. The autistic and Nair population were studied for actinide dependent cytochrome F420 activity suggestive of endosymbiotic archaeal growth.¹⁻¹⁷ This hypothesis was studied by evaluating the endosymbiotic archaeal growth in populations derived from matrilineal societies.

Materials and Methods

Three groups, 25 numbers in each group were chosen for the study - the autistic population diagnosed according to DSM criteria, the normal Nair population and the normal non-Nair population. The matrilineal characteristics and Neanderthal anthropometric characteristics of normal Nair and non-Nair population as well as autistic population were studied. The blood samples were drawn in the fasting state before treatment was initiated. The estimations done in the blood samples collected include cytochrome F420 activity, Cytochrome F420 was estimated fluorimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). The statistical analysis was done by ANOVA.

Results

The results of the study were as follows. The nair and autistic and civilisational disease group had increased cytochrome F420 activity.

Table 1. Incidence of autism in Nair, autistic and non-Nair population.

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

Table 2. Anthropometric features in Nair, autistic and non-Nair population.

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

Table 3. Neanderthal metabolonomics.

| | | Nair | Non-Nair | Autism | F value | P value |
|-----------------|------|------|----------|--------|---------|---------|
| Cytochrome F420 | Mean | 4.00 | 0.00 | 4.00 | 0.001 | < 0.001 |
| | ±SD | 0.00 | 0.00 | 0.00 | | |

Discussion

Neanderthalisation is a symbiotic event due to archaeal symbiosis. The Neanderthals had increased symbiotic actinidic archaeal growth. This occurs in extremes of climate like ice age and global warming. The homo neanderthalis evolved from the bonobo primates consequent to this symbiosis. There is increased neanderthalisation of homo sapiens during global warming consequent to increased actinidic archaeal growth. The homo neanderthalis never became extinct but survives as matrilineal societies in the lower Eurasian region. The initial matrilineal neanderthalic civilizations were the Harappan, Sumerian - Akkadian, Assyrian, Etruscan, Minoan, Celtic, Basque, Semitic, Jewish, Arabic, Australian aboriginal civilization. The civilizations are all matrilineal. The initial neanderthalic civilization survives as the lower caste sudras of India, Dravidians, Australian aboriginals, the Persians, the Semitic Arabs, the Semitic Jews, the Berbers, the Basque, Greeks, Celts and native Americans. The people inhabiting these civilizations are religious, intuitive, feminine, child-like, dreamy, somnolent, communal conscious, primitive socialistic, more sexual groups. The body habitus of these populations are shorter, sloping forehead, recessive chin and more fairer in colour. This is opposed to the Cromagnon population in the northern part of Eurasia and Africa. These populations are scientific, logical minded, patriarchal, more adult-like, more wakeful, fascist and less sexual. The neanderthalic populations inhabit the Indian ocean rim in southern Asia, west Asia as well as in the peri-Mediterranean region. The Neanderthals originated initially from the mythical Lemurian supercontinent in the Indian ocean. The earthquakes and tsunamis in the Indian ocean led to the breakage of the supercontinent and migration of Neanderthals to Harappa, Sumeria, Egypt and Basque. The Harappan civilisation was predominantly neanderthalic. They are the asuras described in the Rig veda. Most of the descriptions in the Rig veda pertain to

the asuras with the Rig vedic Gods being predominantly asuric. Sanskrit was possibly the Harappan language. The devas described in the Rig veda were the Cromagnon Aryan invaders. The Rig veda describes continuing conflict between the asuras and the devas. Finally the neanderthalic Harappan asuras were subdued and conquered. The cromagnonic Aryans who conquered Harappa became the upper caste Hindu elite and the Harappans asuras became the lower caste sudras. The Cromagnon Aryans took over the asuric Gods, Vedas and language and made it their own. The Harappan civilisation of the asuras was extremely advanced and the Cromagnon Aryans were a primitive nomadic tribe. The Cromagnon originated in Africa and migrated to Eurasia. The Cromagnon population subdued the neanderthalic population and tried to exterminate them. There was also interbreeding and intermixing between the Cromagnon and neanderthalic population. The modern neanderthalic societies are in the peri-Indian ocean area of India, Iran and Semitic Arabs. They also inhabit the peri-Mediterranean area as Semitic Jews, Berbers, Basque and Celts. The predominant African and north European population is Cromagnon.

There is an eternal conflict between Neanderthals and Cromagnon. The Cromagnon tried to exterminate the Neanderthals but they survived as the Jews, Arabs, the lower caste Indians, aboriginals and native Americans. These are the people which the Cromagnon excluded from society. The underclass of Indian and European civilization was neanderthalic. With the advent of global warming an increasing archaeal symbiosis the neanderthalic population becomes activated and they try to exterminate the Cromagnon. The symbiotic archaea generates new viruses which infects the non immune Cromagnon and tries to exterminate them. The hot spots of global conflict and terrorism can be localized to neanderthalic areas. The Neanderthals dominate three world religions - Jews, Muslims and Hindus. The Cromagnon are predominantly the Africans and the Europeans. They follow the Christian religion. World conflicts

are basically between the neanderthalic races and the Cromagnon races. This is exemplified by the Jewish leadership of the Russian and French revolutions with its idea of liberty, equality and fraternity. The neanderthalic ideas basically tried to create an equal society. The Buddhist movement and religion among the religious lower caste of India can be thought of as a neanderthalic uprising against the Aryan Cromagnon domination. The present rumblings in the Muslim Semitic world manifesting as global terrorism is a reflection of the neanderthalic Cromagnon conflict. The conflict is basically between the Cromagnon ideas of colonization, capitalism, free market globalization, rightist, fascist, nazi ideas and the neanderthalic ideas of equality, democracy, freedom and socialism. The cromagnic civilization produces increased greenhouse gases leading to increased endosymbiotic archaeal growth. Endosymbiotic archaeal growth is the basis of neanderthalisation. Neanderthalisation is a symbiotic event and not a genetic change. This results in expansion of the existing neanderthalic societies - the Semites, the Dravidians and southern Europeans and extinction of the Cromagnon Aryan phenotype. The present neanderthalic areas include south Europe, India, Iran, the Arab peninsula, the Jewish homeland and the Australian aboriginals. The Cromagnon areas include Europe and Africa.

The Neanderthals were cerebellar dominant. The cerebellum is concerned with intuition and extrasensory perceptive phenomena. The Neanderthals were retroviral resistant. The archaea metabolises cholesterol and generates digoxin which produces membrane sodium potassium ATPase inhibition and intracellular magnesium deficiency. Magnesium deficiency produces reverse transcriptase inhibition. Digoxin itself modulates RNA editing. The retroviral resistance leads to a deficiency of endogenous retroviral sequences. The endogenous retroviral sequences function as jumping genes required for the dynamicity of synaptic connectivity. Dynamic synaptic connectivity is required

for cortical function. The cerebral cortex is dysfunctional in Neanderthals leading to cerebellar dominance. The Neanderthals inhabit a cerebellar world. The neanderthalic population is psychedelic, spiritual, dreamy, more feminine, intuitive, equal and female dominant. They had a communal life. They were hyper sexual and promiscuous. They can be compared to bonobo monkeys. They were matriarchal and female dominant. They are child-like have dreamy sleep, somnolent, altruistic and docile. The neanderthalic population believed in communal living and was of hyper sexual behaviour. The unconscious mind was dominant in Neanderthals. They had precognition and postcognition. They had telepathy and clairvoyance. They could have mediumistic possession and could go into hypnotic regression. They had poltergeist phenomena, group personality, multiple personality, split personality alien abduction phenomena, memory of past life, incubus and succubus. They had a magical civilization of dreams. They were subjective, personal, emotional, irrational and dreamy. They preferred the dark and nights. They had more of autism and schizophrenia. They had more of attention deficit hyperactivity and addiction. They were magical, had dominant art and religion were sexual and believed in things without proof. The belief was intuitive. They had shamanistic and magical consciousness. The Neanderthals were left handed and right hemisphere/cerebellar dominant. They were creatures of the senses and created a spiritual dreamy civilization. They were children of the dark. The self old brain of vampires, troglodytes, demons and the occult belongs to the Neanderthals. The cerebellar dominance and hypertrophy leads to cerebellar dysfunction and ataxia of speech as well as motor movements. Ataxic speech leads to the evolution of music. Ataxia of motor movements leads to abstract art. Thus the Neanderthal brain with its extrasensory perception is extremely artistic. Digoxin and dipolar magnetite in the setting of membrane sodium potassium ATPase inhibition produces a pumped phonon system modulating quantal perception. Quantal perceptive

phenomena are dominant in Neanderthals. This leads to increased extrasensory perception. This also produces a feeling of oneness and equality called the collective unconscious. This produces the socialistic equal Neanderthal society. The Neanderthals were also more spiritual and unconscious dominant. The cortical dysfunction leads to loss of hemispheric differentiation and sexual differentiation. Right hemisphere is predominantly masculine and the left hemisphere feminine. This results in asexual behaviours and cerebellar dominance leads to hypersexuality. The Cromagnon population believed in pair bonding and family patterns. They were more violent and aggressive. They were patriarchal and male dominant. They were adult-like and logical. They had rightist and fascist tendencies. They were conservative in their sexual practices. They were conscious, egoistic, wakeful, male dominant, favoured the light, objective, impersonal and cruel. The conscious logical brain dominated. They depended upon proofs, logic were detached, asexual and male dominant. The Cromagnon were predominantly left hemisphere dominant and right handed practical people. They created a material civilization. They had a rational consciousness. They were children of the light.

The global warming produces endosymbiotic archaeal growth and neanderthalisation of homo sapiens. All these produce a dualistic consciousness. The left wing versus right wing and the conservative versus liberal. It produces a double self and divided self. It results in a Cain and Abel as well as Jekyll and Hyde personality. The Neanderthals had sloping forehead, small jaw, occipital bun and large cranium. They were shorter in height and the body weight was bigger. The brain size of Neanderthals was larger. The second toe of the feet was bigger than the big toe. They had the simian crease. The homo sapiens had a smaller brain and smaller cranium. They were taller.¹⁻¹⁷

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 4

Climate Change, Global Warming and Alternate Sexual Matrilineal Neoneanderthals

Introduction

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. 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 hypertrophy. 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% |
| Alternate sexuality | 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% |
| Alternate sexuality | 69% | 74% | 76% |
| Internet users | 74% | 84% | 82% |

Discussion

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.

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 catabolizing 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 catabolizes 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 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 contribute 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 per cent 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 archaical 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.

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.

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.

The actinidic archaea are cholesterol catabolizing 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 catabolizing enzymes generating more of testosterone than estrogens. This contributes to estrogen deficiency and testosterone overactivity. The Neanderthal population 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.

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. Neanderthal 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 Neanderthal 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 Neanderthal 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

**The Surrealistic, Syntheistic, Asexual Brain - Relation
to Climate Change, Internet Exposure and
Neanderthalisation of Brain - Evolution of
Homo Neoneanderthalis**

Introduction

Previous studies from this laboratory have demonstrated increased symbiotic archaeal growth consequent to global warming. Previous studies have shown low level of EMF pollution leading to increased archaeal growth. The netocrats and netizens are exposed to continuous low level of EMF pollution. The archaea contains magnetite and can catabolize 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.

| | Cyt F420 activity |
|----------|-------------------|
| Normal | 6% |
| Netizens | 65% |

Discussion

The widespread use of the internet is ubiquitous. The internet-human mind interaction has been described in a previous report from this laboratory. The low level of EMF produced by the internet can modulate brain function. Low level of EMF can induce porphyrin synthesis by actinidic archaeal symbionts in the brain. Porphyrins are dipolar molecules and in the setting of archaeal digoxin induced sodium potassium ATPase inhibition can generate a pumped phonon system and Frohlich model of Bose-Einstein condensates. These porphyrin mediated Bose-Einstein condensate can mediate quantal perception. The brain quantal fields can modulate the low level EMF fields in the internet and the interaction can alter internet function and the quantal fields of other brain operating the internet. The interactive quantal fields of the human brain and the low level EMF quantal fields of the internet form one single whole functioning as a universal collective unconscious. There are 7 billion users of the internet. The collective unconscious created by interaction of brain quantal fields with

internet low EMF fields functions as a virtual matrix on which the world is structured. There are thought controlled robotic computers which can perform human functions. The human thought creates a communicative order which alters the brain EEG and can issue a computer modulated order of the brain's thought process.¹⁻¹⁶

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

The widespread use of the internet produces low level of EMF exposure to the human brain. This produces prefrontal cortex atrophy and cerebellar dominance. The prefrontal cortex is the site of the logic, reasoning and commonsense. The atrophy of the prefrontal cortex leads to cerebellar dominance of brain cognitive function. It becomes an impulsive world guided by the senses. The world of the senses comes into existence. The cerebellar

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

The netocratic state can also produce changes in brain function. The increased exposure to low level of EMF produces prefrontal cortex atrophy and cerebellar dominance. This leads onto neanderthalisation of the brain. The increased exposure to low level of EMF produces increased archaical growth, cholesterol catabolism and digoxin synthesis. Digoxin can modulate brain and body function on exposure to low level of EMF. Low level of EMF exposure also produces increased porphyrin synthesis which can lead onto increased digoxin mediated dipolar porphyrin modulated Frohlich model of pumped phonon system.¹⁻¹⁶

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

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

The increased low level quantal EMF fields of the internet produces increased growth of extremophilic actinidic archaea in the brain and human body. The symbiotic archaea synthesises 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 cholesterol catabolism leads to phenolisation of the cholesterol ring producing increased synthesis of monoamine neurotransmitters dopamine and serotonin. This leads to schizophrenia, autism and ADHD. This also produces la tourette syndrome with coprolalia, OCD, vocal and motor tics. The synchronization of motor and vocal tics leads onto the evolution of language. The internet language used by netizens can be compared to a synchronized motor and vocal tic as it is short and agrammatical. Thus the netocratic state results in the generation of new human species - Neanderthal hybrids.¹⁻¹⁶

The internet revolution and netocratic state leads onto the death of the individual and the generation of a social individual. This produces as said before prefrontal cortex atrophy and cerebellar dominance. This leads onto the annihilation of the rational individual. The world of logic, reason, understanding and order comes to an end. The increased synthesis of dopamine and an epidemic la tourette syndrome leads to ritualisation of behaviour, obsessive behaviour, uniformity and creativity. The world of quantal perception leads onto

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

The global warming leads to increased archaeal growth. The archaea can catabolize 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 behavior 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 surrealist 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 6

**Archaea Induced Stem Cell Syndrome and
Androgynous Creative Matriarchal Cannibalistic
Capitalistic State**

Introduction

The global warming produces extremes of temperature and accumulation of atmospheric carbon dioxide resulting in growth of symbiotic extremophiles like archaea. Archaea can induce dedifferentiation of somatic cells to stem cells. This involves the process of reverse aging. The differentiated somatic cells lose their function as they become stem cells. The archaeal magnetite induces quantal extrasensory perception of low level of EMF as the somatic neuronal cells lose their function. This results in low level of EMF effect on the brain producing cortical atrophy especially the prefrontal cortex. The primitive parts of the brain dominate with cerebellum and brain stem undergoing hypertrophy. The atrophy of the cortex results in behavioural changes. The cortex has different hemispheric dominance in males and females. The right hemisphere is a creative hemisphere and is male. The left hemisphere is the practical hemisphere and is female. When the cortex atrophies the hemispheric differentiation and the effect on behaviour is obliterated. The cortical effect on male and female behaviour is lost. Behaviour becomes uniform and single and is dominated by the primitive brain stem and cerebellar cortex. It results in impulsive behaviour dominated by the will to power and individuality. This forms the basis of the androgynous state and alternate forms of sexuality. This hypothesis was studied in this paper by checking the archaeal growth in population with alternate sexual traits.¹⁻¹⁷

Materials and Methods

The blood samples were drawn from 15 normal individuals with alternate sexual traits and cytochrome F420 activity was studied. The estimations done in the blood samples collected blood lactate, pyruvate, hexokinase, cytochrome C, digoxin, bile acids, butyrate and propionate were estimated.

Results

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

Table 1

| Group | Cytochrome F420 | | Serum Cyto C (ng/ml) | | Lactate (mg/dl) | | Pyruvate (umol/l) | | RBC Hexokinase (ug glu phos/hr/mgpro) | |
|--------------------------------|-----------------|------|----------------------|------|-----------------|------|-------------------|-------|---------------------------------------|------|
| | Mean | ±SD | Mean | ±SD | Mean | ±SD | Mean | ±SD | Mean | ±SD |
| Normal population | 1.00 | 0.00 | 2.79 | 0.28 | 7.38 | 0.31 | 40.51 | 1.42 | 1.66 | 0.45 |
| Alternate sexual traits | 4.00 | 0.00 | 12.39 | 1.23 | 25.99 | 8.10 | 100.51 | 12.32 | 5.46 | 2.83 |
| Low level background radiation | 4.00 | 0.00 | 12.26 | 1.00 | 23.31 | 1.46 | 103.28 | 11.47 | 7.58 | 3.09 |
| F value | 0.001 | | 445.772 | | 162.945 | | 154.701 | | 18.187 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

Table 2

| Group | ACOA (mg/dl) | | Glutamate (mg/dl) | | Se. Ammonia (ug/dl) | | RBC digoxin (ng/ml RBC Susp) | | Beta galactosidase activity in serum (IU/ml) | |
|--------------------------------|--------------|------|-------------------|------|---------------------|-------|------------------------------|------|--|------|
| | Mean | ±SD | Mean | ±SD | Mean | ±SD | Mean | ±SD | Mean | ±SD |
| Normal population | 8.75 | 0.38 | 0.65 | 0.03 | 50.60 | 1.42 | 0.58 | 0.07 | 17.75 | 0.72 |
| Alternate sexual traits | 2.51 | 0.36 | 3.19 | 0.32 | 93.43 | 4.85 | 1.41 | 0.23 | 55.17 | 5.85 |
| Low level background radiation | 2.14 | 0.19 | 3.47 | 0.37 | 102.62 | 26.54 | 1.41 | 0.30 | 51.01 | 4.77 |
| F value | 1871.04 | | 200.702 | | 61.645 | | 60.288 | | 194.418 | |
| P value | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | | < 0.001 | |

Discussion

The cortical atrophy and cerebellar/brain stem dominance results in obliteration in hemispheric difference in sexual behaviour. The right hemisphere is creative and male in outlook while left hemisphere is practical and female in outlook. The primitive parts of the brain take over the function of regulating sexual behaviour. The cerebellum plays an important role and this results in impulsive sexual traits. The difference between male and female sexual behaviours induced by cerebral cortical function is lost. The archaical cholesterol catabolism results in depletion of sex steroids and deficiency of testosterone and estrogens. The archaical induced conversion of ovarian and testicular cells into stem cells results in loss of function and decreased secretion of male and female hormones. Behaviour becomes unisexual. This becomes non-inhibitory and impulsive in nature. It transcends all taboos and has got a reflection in culture and society affecting all manners of social interaction. The predominant form of brain perception is extrasensory or quantal. The primitive human impulses become unleashed and this results in a flood of primitive behavioural traits with violent, aggressive and obscene traits in society. The increased incidence of violent sexual behavioural traits is related to the

dominance of the primitive areas of the brain - the cerebellum and brain stem. The dress code of the society also changes and results in metrosexual and unisexual garments. The mode of grooming of male and female changes and both becomes equal and the same. This creates the metrosexual world.¹⁻¹⁷

The dominance of the primitive areas of the brain results in fear flight and fight response resulting in an epidemic of selfishness in society. Individualism takes over and there is no commitment to the society as such. Sexual behaviours were programmed for the benefit of the society so that the human population is replaced. The cortical atrophy and cerebellar dominance results in selfish sexual behavioural traits producing sexual behaviour for individual pleasure and gratification in animalistic sense. This results in loss of family values and declining population as is seen in European countries. The cerebral cortical atrophy and dominance of cerebellum result in selfishness and individuality contributing to an anarchic society. The cerebral cortical atrophy results from perception of low level of EMF resulting from increased archaean magnetite as well as EMF pollution resulting from internet exposure. Society becomes globalised and anarchic fuelled by the internet. This results in an acortical acephalic society with dominant primitive cerebellar function. There is no compassion, love, feeling of altruism or goodness. This is replaced by selfishness and individuality. The internet and social media becomes the common market place for interactions. The feeling of human touch and love is lost. Society becomes increasingly robotic and autistic. The realm of the senses takes over the kingdom of God. Everything becomes subsumed and sacrificed in the altar of selfishness, greed and pleasure. This produces an anarchic, unisexual and society of primitive impulses. The cortical atrophy and cerebellar dominance results in a play of primitive impulses resulting in violence and aggression. This results from a culture of selfishness. This produces terrorism and acts of war which are a form of transcendence. This also produces criminal behaviour where individuality and

selfishness dominates. Society becomes dominated by ritualized and in some cases obscene behaviour.¹⁻¹⁷

The cortical atrophy and dominance of cerebellum result in loss of cortical neuronal function and increased extrasensory perception mediated by archaeal magnetite. This results in dominant spiritual behaviours where one comes into contact with the eternal and archetypes. This results in a literature of transcendence. This produces what is called as magic realism of writers like Gabriel Marquez. The literature explores the evil depths of the human soul. This results in a dominance of sexual, violent, obscene and evil in literature as seen in post modern literature. This has also a reflection in art of painting, dance and music. Painting, dance and music become surreal and the rationality of the cortex regulating it is lost. This results in psychedelic and rock music as well as the surrealist abstract art of Picasso. Dance forms also take violent, obscene, chaotic forms. This is art of the surrealist acephalic irrational world in the realm of senses driven by obscenity. This type of art and literature correlates with the androgynous creativity.¹⁻¹⁷

The prefrontal cortical atrophy and cerebellar dominance is due to archaeal growth which results in stem cell conversion. The stem cell syndrome can produce a proliferation of systemic diseases. The neuronal stem cell conversion results in loss of neuronal function and dominant extrasensory archaeal magnetite mediated perception. This produces an epidemic of schizophrenia and autism. The stem cells have the Warburg phenotype with mitochondrial dysfunction and glycolytic energetics. This results in metabolic syndrome x. The stem cells can proliferate resulting in cancer syndromes. The lymphocytic stem cells proliferate producing an autoimmune disease. The neuronal stem cells transformation and loss of function can lead to degenerations. Thus the systemic somatic and neuropsychiatric diseases correlate with alternate sexual traits and stem cell transformation.¹⁻¹⁷

The archaeal symbiosis mediated brain changes producing cerebellar dominance and cortical atrophy results in an individualistic selfish society. This is the kernel of capitalistic growth and models which tend to fail because of the individualistic will to power and dominate at all cost. The society becomes more dictatorial and fascism and nazistic behaviour takes over. There is individualistic trait of selfishness and a primitive impulse to follow the leader. The civil society which is just, good, equal, socialistic, democratic and fair generated by cortical impulses becomes dead. The society which is governed by cerebellar function and unisexual tendencies becomes more matriarchal as men and women tend to have similar traits. Women also tend to be as aggressive if not more than men. The cortical hemispheric control over social and individual behaviour is lost. It becomes the primitive world of selfishness and individuality uninhibited by sexual mores.¹⁻¹⁷

The archaeal overgrowth and digoxin synthesis can modulate retroviral growth. Digoxin can modulate RNA editing and retroviral replication. Digoxin can also produce intracellular magnesium deficiency resulting in reverse transcriptase inhibition. Thus the archaeal induced stem cell syndrome is retroviral resistant. This results in changes in the human genome as such. HERV sequences in the human genome functions as jumping genes producing dynamicity and flexibility of the human genome. This is required for the changes in cortical synaptic connectivity, HLA gene flexibility and developmental changes. The archaeal induced stem cell syndrome produces a rigid adynamic genome not able to cope with the complexities of the cortical connectivity, HLA gene rearrangements for immune response and gene changes for complex development. This neanderthalisation of the human body due to archaeal symbiosis can spell the death of the human species. The new human species which may be transient consequent to archaeal symbiosis produced by extremophilic climatic changes consequent to global warming can be called the human homo neoneanderthalis. It

is androgynous, creative, psychedelic, artistic, spiritual, aggressive, violent, selfish, impulsive, anarchic, chaotic and individualistic.¹⁻¹⁷

References

- [1] Weaver TD, Hublin JJ. Neanderthal 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 Neanderthal 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] Kurt  n 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.



Endosymbiotic Archaea, Climate Change and Culture

- The Intergalactic Fields and Human Physiology - The Quantal State and the Simultaneous Past, Present and Future
- **The Biology of Social Systems - Feminism, Matriarchy and Patriarchy**
- The Biology of Human Art and Culture
- The Biology of Human Sexual Behaviour
- The Biology of Human Terrorism and Criminality
- The Biology of Human Political Economy - Socialism, Capitalism and Democracy
- The Biology of Spirituality and the Idea of God
- Human Endosymbiotic Actinidic Archaea and Hemispheric Dominance
- Global Warming Related Endosymbiotic Archaea Induced Immunometabolonomic Syndrome
- Theory of Everything - A Biological Viewpoint

ISBN: 978-1-941926-73-4



9 781941 926734 >

Price: US \$75

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