Preci of article by Zalyubovskaya and Kiselev (1978) paper 2.

Effect of Radio Waves of a Millimeter Frequency Range on the Body of Man and Animals.

This scientific article is on observations on the state of health of 72 engineers who serviced ultra-high frequency generators of a 1mm frequency range for a period of from 1 to 10 years and, as a result were exposed to power flux densities of up to 1,000μW/cm².

Engineers working on thee generators complained of fatigue, headaches, drowsiness, and loss of memory. No significant changes to arterial blood pressure, pulse, or body temperature were noted.

Examination of their blood showed:

1. Reduction in Red blood cell (erythrocyte) numbers and levels of haemoglobin with a tendency toward red blood cell hypercoagulation.

2. Reduction in total white blood cell (leucocyte) numbers from 4.71 to 4.10 x 10^3/μl compared with a control value of 5.98 x 10^3/μl.

3. Increase in lymphocytes from 30.3 to 37.8 x 10^3/μl compared with 22.9 x 10^3/μl in controls.

4. A reduction in neutrophil numbers by 20%.

5. A reduction in reticulocytes (immature erythrocytes) and thrombocytes (platelets).

6. A reduction in osmotic resistance (fragility) of erythrocytes by 18% and acid resistance (anion uptake) by 26%.

Note: The above changes to erythrocytes are consistent with oxidative stress which is aligned with damage to cells, tissues, and organs and associated with most disease states. Low erythrocyte numbers and fragile erythrocytes are associated with poor oxygen carrying capacity and subsequent fatigue.

Low platelet count is associated with poor blood clotting capacity.

Reduced number of neutrophils is associated with poor immune response.

The coagulation/aggregation of erythrocytes is often related to chronic degenerative conditions.

Immunobiological Activity Measurements showed:

1. Significant increases in AutoFlora microorganisms from mucous membranes of the oral cavity (mouth) from 697 to 1,437 with control value at 510.

2. Bactericidal activity of the skin decreased from 65.2 to 63.0 compared with control value of 79.9.

3. Lysozyme and complement titers decreased by half.

4. The phagocytic activity of neutrophils decreased from 20.1 to 18.3 compared with control value of 25.2.

5. Phagocytic index of neutrophils decreased by almost half.

Note: ***The changes to immunobiological activity expressed, above, are all consistent with the immune system of these individuals being compromised by frequent exposure to high radio frequencies in the 1mm wavelength range, and suggest adverse effects caused by these radio wave frequencies on immune activity of the individual. Of particular importance, is that these adverse effects increase with exposure time.***

Experiments with mice using 6.5mm wavelength and 1,000μW/sq.cm power flux density duplicated the results observed on the engineers working with the generators. Further, histological examination of internal organs such as spleen, thymus, and lymph nodes confirmed the damage to these organs caused by exposure to the millimetre wavelength radio frequencies that would have contributed to compromised immunity and increased susceptibility to infection and disease.

In order to clarify the possible underlying cause(s) of this increased development of infection and subsequent death in mice the authors irradiated mice and immunized 1/3rd of them with sheep (ram) erythrocytes and noted that, compared with controls, the irradiated mice only developed about 1/3rd the number of antibodies. This evidence was confirmatory regarding the ability of exposure to millimetre wavelength radio waves reducing immunocompetence.

Examination of levels of 17-OCS (17-oxycorticosterol, cortisol), ascorbic acid (vitamin C), and catecholamines (such as norepinephrine and epinephrine) in tissues of mice exposed to the millimetre wavelengths showed a significant increase in 17-OCH in their blood accompanied by a decrease in ascorbic acid in adreno-cortical tissues and an increase in adrenalin in adrenal glands and blood, while noradrenalin levels in the hypothalamus decreased. Catecholamine levels also increased in the hypothalamus. ***Because the hypothalamus, pituitary, and adrenals glands closely interact (the HPA axis) and there is ample evidence to show that the HPA axis is strongly influenced by both external and internal factors, all of the above changes induced by exposure to millimetre wavelength radio waves exhibits the characteristics of these exposed animals being induced into a state of stress. This state of stress can then, presumably, lead to compromised immunity, fatigue, headaches, and loss of memory.***