The Real Cause of the Diabetes Pandemic

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Abstract

Published evidence consistent with the idea that microwave pollution may be the real cause of the current diabetes pandemic is reviewed. Mechanisms by which levels of microwaves too low to heat tissue have nevertheless been shown to affect biology are described.

Introduction

The world is presently in the grip of not only a coronavirus pandemic, but also of a pandemic of Type 2 diabetes1,2. In the search for causes of the latter pandemic, victim blaming generally prevails, with individual lifestyle factors given the credit and sugar taxes proposed. Universally neglected is the one major environmental factor that has risen significantly in parallel with the rise in diabetes incidence – the now virtually inescapable microwave pollution generated by cell phones and their base stations, WiFi in both homes and public places, 'smart' electricity meters, baby monitors and various other sources of electrosmog3..

Evidence for Biological Effects of Microwaves Related to Diabetes

In animals, exposure to pulsed microwaves has been shown to cause impaired insulin release by the pancreas 4--7, insulin resistance8 (presumed to be a result of changes to insulin receptors) and conformation changes in the insulin molecule itself which decrease its ability to bind to insulin receptors 9.

In humans, epidemiological evidence obtained in Saudi Arabia shows that students attending a school close to a cell tower had significantly elevated glycated haemoglobin compared with similar students whose school was further from a tower[10], which circumstance was described by the authors as conveying a greater risk of development of type 2 diabetes in the students whose school was near the tower. A high incidence of frank diabetes was recorded in subjects living close to a shortwave transmitter in Switzerland11. And in Canada, exposure to dirty electricity was reported to cause higher fasting glucose levels in subjects who already had diabetes 12,13. Since grant money for study of this topic appears to be scarce to the point of non--existence in the United States, there is presently little further epidemiological evidence.

Mechanisms

This latter situation is possibly related to the facts that the FCC has been described as a captured agency14 and the WHO committees ICNIRP (International Commission for Non Ionising Radiation Protection) and IARC

(International Agency for Research on Cancer) have long maintained the somewhat bizarre position that no matter how much evidence is available for biological harms caused by low--intensity microwave irradiation, in the absence of a proven mechanism by which microwaves can cause such harms, all evidence that they do so should be either ignored or minimised – not taken seriously.

For example, Section 1.5 of the report of the 2011 IARC Working Committee15 justifies that group's conclusion that microwaves are only a "possible" (Grade 2B) cause of cancer with the words "Although numerous experimental studies have been published on the non--thermal biological effects of RF--EMF, multiple computational analyses based on biophysical and thermodynamic considerations have concluded that it is theoretically implausible for physiological effects (except for reactions mediated by free radical pairs) to be induced at exposure intensities that do not cause an increase in tissue temperature" [italics added].

The italicised words show that the committee was actually well aware of at least one mechanism by which sub--thermal microwaves can cause biological harm – the demonstrated ability to generate the excess of free radicals over antioxidants that is generally known as oxidative stress. Yet rather than follow this up, they chose to believe mathematical models saying that harm is "theoretically implausible" (see later).

Free radicals are molecular entities that are extremely reactive, because their outer orbitals contain only one electron instead of the 'preferred' two. Free radicals (these days IUPAC prefers to call them just radicals) are formed as a normal part of the electron transfer reactions that underpin all of biology.

Normally they have a very short half life16 because they quickly scavenge an electron from some other molecule, sometimes doing significant biological damage in the process. This latter fact is the basis of the free radical theory of aging17. Microwaves have been shown to greatly prolong the lifetime of radicals and other 'reactive oxygen species' (ROS)18, thereby causing the normal quota of such side--effects of essential biochemical activity to stay around for longer, causing chain reactions

that do considerable random damage to the organism.

This is but one of a number of mechanisms by which subthermal microwaves can facilitate the sorts of damage that eventurally result in multiple biological problems19. Another is that pulses of microwaves like those necessarily used in telecommunications technology are considerably more damaging than continuous microwaves20 – probably because all such pulses come with sharp

on--off transients called Brillouin precursors21 which take precedence over their carrier waves in terms of propagation22 and mean that pulsed (5G) mm waves are in fact not blocked by skin, or walls or even earth, but have the capacity to rip through any material that contains a lot of water, punching holes in biological membranes and generally causing havoc.

It is notable in this regard that the part of the IARC statement above which refers to "multiple computational analyses based on biophysical and thermodynamic considerations [which] have concluded that it is theoretically implausible" for

subthermal microwaves to cause biological harm cites two papers by Robert K Adair, who is on record as calling Brillouin precursors "strange pulse effects that simply don't exist"22 . When asked how a physicist with a chair at Yale university could hold such a view, Kurt Oughstun is reported to have replied "I can only guess what any person says or believes. Perhaps it is because the math used to model the behavior of Brillouin precursors—which is known as asymptotic analysis—can be very complicated. The asymptotic description of pulse behavior has been completely verified by independent numerical solutions and by carefully designed experiments. But in spite of this incontrovertible evidence, many researchers continue to cling to the group velocity description". Speaking as an ex--cellular neuophysiologist, the present author has recorded so many Brillouin precursors (we call them stimulus artifacts) that this exchange well serves to illustrate the fact that, while mathematical models may be interesting ways to describe events that have been observed, they should not be trusted as predictors of events. The real world is so complex that the simplifying assumptions necessary to make a model mathematically tractable are rarely justified.

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