Electromagnetic Radiation

Using a cell phone for an hour a day increases cancer risk by 500%, study shows

by: David Gutierrez

(NaturalNews) Studies are increasingly showing that cellular phone use can lead to chronic health problems, including cancer and neurodegenerative disorders. Now a new study in the journal Electromagnetic Biology & Medicine has suggested a biological mechanism that might explain how these health problems develop.

The study was conducted by researchers from Indiana University, the University of Eastern Finland, the University of Campinas in Brazil, and the Institute of Experimental Pathology, Oncology and Radiobiology in Kiev, Ukraine.

The researchers found that exposure to the radiofrequency radiation (RFR) used by cell phones and other wireless devices causes a metabolic imbalance known as oxidative stress.

“These data are a clear sign of the real risks this kind of radiation poses for human health,” co-author Igor Yakymenko said.

There are Enormous increases in tumor risk

Health researchers roughly classify radiation into two categories: ionizing and non-ionizing. Ionizing radiation, which includes X-rays, is a variety known to cause DNA damage and cancer. Non-ionizing radiation, including RFR, is believed to be too weak to directly damage cells. Nevertheless, evidence is emerging that RFR does indeed increase the risk of cancer.

In 2011, the International Agency for Research on Cancer officially classified RFR as a "possible carcinogen." This came a year after the international Interphone study found that people who used a cell phone for ten years were 40 percent more likely to develop brain tumors. The risk was 400 percent higher among those who started using phones before the age of 20. Decade-long cell phone users were also more likely to develop parotid gland tumors and 300 percent more likely to develop acoustic nerve tumors.

The industry-funded Interphone study has been openly criticized for selecting data in a way that was designed to minimize the apparent risk of cell phone use.

For the new study, the researchers reviewed prior studies into cell phone risk. They found that just an hour of cell phone use per day for four years was enough to increase the risk of certain tumors between three and five times. Even 20 minutes of daily use for five years was enough to triple the risk of a certain brain tumor.

The risk may be even higher, Yakymenko warned, because some cancers can take 30 years to develop. In addition, little research has been conducted into people who start using cell phones as children.

"[Our] data were obtained on adults who used cell phones mostly up to 10 years as adults," he said. He added that the situation could be much different for children who use cell phones because their biology is more vulnerable to hazards and they will presumably use the devices throughout their lifetime.
Cell phones cause oxidative damage

One of the major problems in gaining widespread acceptance of these risks has been the fact that RFR simply does not cause the damage seen in cells exposed to ionizing radiation. In reviewing experimental studies on the metabolic effects of low-intensity RFR, the researchers found a surprising trend: regular cell phone, tablet or wireless internet RFR consistently causes oxidative stress in living cells.

Oxidative stress is a metabolic imbalance in which the production of free radicals exceeds the body's ability to remove them with antioxidant activity. The excess free radicals produced in this situation are able to damage cells and DNA. Free radicals have been implicated as causes of many chronic diseases, including cancer, heart disease, and dementia, and they are also responsible for many of the effects of aging.

It is well known that the body reacts to aggressive environments with oxidative stress. Now it has been demonstrated that "ordinary wireless radiation" can have the same effect, the researchers said. This could explain not just cancer, but many of the other long-term health effects observed with long-term cell phone use.

Sources for this article include:
http://www.nydailynews.com
http://jonathantarley.org
http://informahealthcare.com
http://www.dailymail.co.uk
http://www.naturalnews.com/028078_cell_phones_brain_cancer.html
http://www.naturalnews.com/028379_cell_phones_brain_tumors.html

Learn more: http://www.naturalnews.com/050906_cell_phones_cancer_risk_tumors.html#ixzz3jiXsJGgB

STRONG SCIENTIFIC EVIDENCE OF HARM for many years – the jury is not still out as many hopeful people claim.

Oncologist Professor Lennart Hardell, MD, PhD has been researching this issue for many years and recently sent me a copy of a letter he sent to The World Health Organization.

A few years ago WHO categorized cell phone and WiFi radiation (radio-frequency fields) as 2B, a possible carcinogen.

Professor Hardell and many other researchers are advocating a stronger classification - a probable carcinogen.

ARE YOU AND YOUR CHILDREN/YOUNG PEOPLE BEING EXPOSED TO CELL PHONE RADIATION AND WIFI - DAY AND NIGHT?

Professor Hardell cautions, "Children and adolescents are more exposed to RF-EMF than adults due to thinner skull bone, higher conductivity in the brain tissue, and a smaller head."
The developing brain is also more vulnerable than in adults and it is still developing until about 20 years of age. The finding of higher risk in young persons is worrying, not the least due to the high prevalence of use of wireless phones in children and adolescents."

You will see more information at some of this research at my site: www.SaferTechSolutions.org and in my book, A Wellness Guide for The Digital Age.

Here is an excerpt from Professor Hardell's letter:

World Health Organization 4 August, 2015
Dr Margaret Chan, Director General
World Health Organization
Avenue Appia 20, 1211 Geneva 27
Geneva, Switzerland

Dear Ms. Margaret Chan, Dear Ms. Emelie van Deventer

Further Comments on the WHO draft: Radio Frequency fields: Environmental Health Criteria Monograph

On 15 December, 2014 we submitted comments on the WHO draft on radio frequency fields and health.

Since we have not got a satisfactory reply from WHO, not seen a revision of the draft, and adding to that more published studies that reinforce the increased risk for certain brain tumours associated with use of wireless phones we want to submit the following, additional comments.

The brain is the primary target organ for exposure to radiofrequency electromagnetic fields (RF-EMF) during the use of the handheld wireless phone. This has given concern of an increased risk for brain tumours. The carcinogenic effect of RF-EMF on humans was evaluated at a meeting during 24 – 31 May 2011 at the International Agency for Research on Cancer (IARC) at WHO in Lyon, France. One of us (LH) was part of the expert group. The Working Group categorised RF-EMF from mobile phones, and from other devices that emit similar non-ionising electromagnetic fields in the frequency range 30 kHz–300 GHz, as a Group 2B, i.e. a possible, human carcinogen (http://monographs.iarc.fr/ENG/Monographs/vol102/mono102.pdf).

Since then more studies have been published that strengthen the association between use of wireless phones (mobile and cordless phones) and increased risk for brain tumours. We have performed long-term research in this area and in the following we give a short up-dated summary of our findings based on research since the 1990’s. In our publications relevant information can be found also on other studies, as well as discussions of the current scientific evidence.

Glioma:

Glioma is a malignant brain tumour ("brain cancer"), and the most common type is glioblastoma multiforme with a poor prognosis. We have published a statistically significant increased risk for glioma among users of both mobile and cordless phones. The risk increased with latency (time from first use of the phone until tumour diagnosis) and cumulative number of hours for use. Highest risk was found in the area of the brain with highest exposure to RF-EMF.

All these results are of biological relevance; that is what would be expected for a causal
Meningioma:

Meningioma is mostly a benign brain tumour and accounts for about 30% of all intracranial tumours. The incidence is approximately 2-times higher in women than in men. No conclusive evidence of an association between use of mobile and cordless phones and meningioma was found in our study. However, taking the long latency periods that have been reported for the increased meningioma risk associated with exposure to ionizing radiation it is still too early to make a definitive risk assessment. Results for even longer latency periods of wireless phone use than in our study are desirable, see more details here:

http://www.spandidos-publications.com/or/33/6/3093

Acoustic neuroma:

Acoustic neuroma or Vestibular Schwannoma is a rare benign tumour in the eighth cranial nerve that leads from the inner ear to the brain. It grows slowly and does not undergo malignant transformation, but may give compression of vital brain stem centres. Tinnitus and hearing problems are usual first symptoms of acoustic neuroma. We published a clear, statistically significant, association between use of mobile and cordless phones and acoustic neuroma. The risk increased with time since first use. For use of both mobile and cordless phones the risk was highest in the longest latency group. Tumour volume increased per 100 hours of cumulative use and year of latency for wireless phones indicating tumour progression from RF-EMF. The whole study can be read here:

http://www.spandidos-publications.com/ijo/43/4/1036

Brain tumour prognosis:

A causal association would be strengthened if use of wireless phones has an impact on the survival of glioma patients. We analyzed survival of 1,678 glioma patients in our case-control studies 1997-2003 and 2007-2009. Use of wireless phones in the > 20 years latency group (time since first use) yielded increased hazard ratio (HR) = 1.7, 95% confidence interval (CI) = 1.2-2.3 for glioma, i.e. decreased survival. Increased HR was found for use of both mobile and cordless phones. Highest HR was found for cases with first use before the age of 20 years. These results strengthen a causal association between use of wireless phones and glioma. The publication can be read here:

http://www.mdpi.com/1660-4601/11/10/10790

Risk in different age groups of first use:

In our glioma study we found highest risk for subjects with first use of mobile or cordless phone before the age of 20, see Table 8 in the publication:


We published similar results for acoustic neuroma and use of mobile phones, see Table 21.2: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.433.7480&rep=rep1&type=pdf

Children and adolescents are more exposed to RF-EMF than adults due to thinner skull bone, higher conductivity in the brain tissue, and a smaller head.

The developing brain is also more vulnerable than in adults and it is still developing until about 20 years of age. The finding of higher risk in young persons is worrying, not the least due to the high...
prevalence of use of wireless phones in children and adolescents.

**Brain tumour incidence:**

It is not correct to claim that the incidence of brain tumours has not increased in the Scandinavian countries. The age-standardized incidence of brain tumours increased dramatically in Denmark with +41.2 % among men and +46.1 % among women during 2003-2012 (http://www.ssi.dk/Aktuelt/Nyheder/2013/~/media/Indhold/DK - dansk/Sundhedsdata og it/NSF/Registre/Cancerregisteret/Cancerregisteret 2012.ashx).

Due to the well-known under-reporting of brain tumours to the Swedish Cancer Registry we studied brain tumour rates using the Swedish National Inpatient Register and the Causes of Death Register (see http://www.mdpi.com/1660-4601/12/4/3793/htm ). In summary we found a statistically significant increasing rate of not specified brain tumours from 2007 in the Inpatient Register and from 2008 in the Causes of Death Register.

Our study indicated that several of these tumours were never reported to the Swedish Cancer Register. The results are in accordance with a reasonable latency period for use of wireless phones, e.g. mobile phones, see Figures 5 and 6 in our publication. Thus, the Swedish Cancer Register data cannot be used to dismiss an increased risk for brain tumours associated with use of wireless phones. On the contrary our study is consistent with an association considering a reasonable tumour induction period.

**Mechanistic aspects:**

- **Reactive oxygen species:**

RF-EMFs do not cause direct DNA damage. On the other hand numerous studies have shown generation of reactive oxygen species (ROS) that can cause oxidative damage of DNA. This is a well-known mechanism in carcinogenesis for many agents. The broad biological potential of ROS and other free radicals makes radiofrequency radiation a potentially hazardous factor for human health, not only cancer risk but also other health effects. A recent update can be read here: http://informahealthcare.com/doi/abs/10.3109/15368378.2015.1043557

- **Tumour promotion:**

Tumour promotion by RF-EMF exposure was reported in 2010 in a study on mice:http://www.ncbi.nlm.nih.gov/pubmed/20545575. These findings were recently replicated and add to the relevance of tumour risk: http://www.ncbi.nlm.nih.gov/pubmed/25749340

- **p53:**

The p53 protein is a transcription factor that plays a vital role in regulating cell growth, DNA repair and apoptosis, and p53 mutations are involved in disease progression. In a recent study it was found that use of mobile phones for ≥3 hours a day was associated with increased risk for the mutant type of p53 gene expression in the peripheral zone of astrocytoma grade IV (glioblastoma multiforme), and that this increase was statistically significant correlated with shorter overall survival time: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4178273/

These results are in agreement with the decreased survival for patients with astrocytoma grade IV (glioblastoma multiforme) associated with long-term use of mobile phones and cordless phones that we reported in 2014, see above the section on prognosis.
Conclusion:

Our results are in agreement with other studies such as the international Interphone study and the French CERENAT study. This is discussed in more detail in e.g. our article on glioma risk, see also: http://www.pathophysiologyjournal.com/article/S0928-4680(12)00110-1/pdf

The so called Danish cohort study on mobile phone users has been taken as evidence of no risk. However, the many shortcomings as reviewed elsewhere makes the study inconclusive regarding assessment of cancer risk. It should not be cited as evidence of no risk, for more details see: http://www.degruyter.com/view/j/reveh.2012.27.issue-reveh-2012-0004/reveh-2012-0004.xml?format=INT

In summary there is consistent evidence of increased risk for glioma and acoustic neuroma associated with use of mobile phones and cordless phones. Furthermore, the risk is highest for persons with first use before the age of 20, which is of special concern.

Our conclusion is that RF-EMF should be regarded as a human carcinogen. The IARC classification should be updated to at least Group 2A, a probable human carcinogen. Current guidelines for exposure need to be urgently revised. The WHO Monograph draft on this issue is based on selective inclusion of studies and wrong assessment of the evidence of increased risk. Thus the Danish cohort study on mobile phone users and the Swedish Cancer Register data cannot be used as evidence of no increased risk.

It is important that the public and decision makers are given correct information about the cancer risk so that they can make decisions based on correct data and take precautions. Otherwise there is an obvious risk of forthcoming increasing impairment of human health and increasing numbers of cancer in the population. We anticipate correction of the Monograph and your reply to this letter no later than 15 September, 2015. If you so wish our research group may of course give a presentation at WHO on this topic.

Yours sincerely,

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- The take away?

Once you accept this exposure is harmful, or you've seen enough science to be cautious, you will instinctively know that it is risky behaviour to: hold a mobile device against your head - using the speaker is better - avoid all things Bluetooth, sleep in a WiFi environment - or have it in our schools, or hospitals, in your car, in an airplane, have pregnant women or young children in close proximity to these WiFi connected devices.

I wish this weren't true, and as you will see at my site, and/or in the book, scientists and medical experts are also calling for caution.
Desirè is the Professor Emeritus of IMUNE. IMUNE is an accredited and legally registered medical university in Europe.

Since 1995 IMUNE has been offering medical education in a variety of subjects to defend and perpetuate Natural Medicine. There are many small minded people being driven by the synthetic chemical companies to destroy Natural Medicine as a viable choice in Medicine. IMUNE has offices in Switzerland, Mexico, Dubai, Budapest, England, and the British Virgin Islands. The small petty minded piquayune minions of the chemical companies constantly attack with their anal retentive biased short sided views. We must fight for freedom of choice and especially freedom of choice on medicine.

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