

Israeli scientists find possible link between cellphone use, thyroid cancer

Findings are 'first evidence of changes in thyroid cells in response to electromagnetic radiation' says researcher, 'but drawing sweeping conclusions ... is still far off.'

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Israeli scientists have reported preliminary findings of a possible link between the radiation from cellphones and thyroid cancer. **There has been a steep rise in rates of thyroid cancer in recent years in Western countries.**

The Israeli research, conducted at Beilinson Hospital in Petah Tikva and at Tel Aviv University, identified evidence for the first time of the possible connection between the rise in thyroid cancer cases to the increased exposure to radiation emitted by cellphones.

In one experiment, human thyroid cells collected from healthy patients were subjected to radiation with a device, designed for the study, **that simulates the electromagnetic radiation emitted by cellphones. The irradiated thyroid cells proliferated at a much higher, statistically significant rate than non-irradiated cells in the control group**

A second experiment, using different methods and materials, gave similar results.

The research was conducted in the Felsenstein Medical Research Center, part of the Sackler Faculty of Medicine at Tel Aviv University and the Rabin Medical Center. Prof. Raphael Feinmesser, head of Beilinson's Ear, Nose and Throat Department was the lead researcher.

The findings will be presented for the first time this weekend at the annual conference of the Israeli Society of Otolaryngology, Head and Neck Surgery, in Eilat.

"The findings are the first evidence of changes in thyroid cells in response to electromagnetic radiation," said Feinmesser. "But drawing sweeping conclusions as to a connection between cellphone radiation and thyroid cancer is still far off."

The scientific community is divided as to the connection between cellular radiation and cancer. One opinion is that because cellular radiation is non-ionizing and incapable of causing changes in cellular DNA, it cannot cause cancer. **But in recent years evidence has mounted from epidemiological studies indicating a relationship between increased exposure to cellular radiation and cancerous growths, especially in the brain and the salivary glands.**

"The thyroid gland is located in the neck, but the area is located the same distance from the ear as the regions of the brain where [cancerous] growths have been diagnosed as being related to the use of the [cellular] devices. This is a region that is not far from the center of the device's radiation," said Feinmesser.

The incidence of thyroid cancer has been on the rise in Israel for more than a decade, which matches the rise in the use of cellphones.

Thyroid cancer is three times more common in women than men. It is the fourth most common form of cancer among Jewish women in Israel, at 16.6 cases per 100,000 people. The three most common forms of cancer for women are cancer of the breast, colon and cervix.

Among Israeli Arab women the rate of thyroid cancer is 11.6 cases per 100,000, and it is the third most common cancer.

From 1990 to 2007 there was a 67-percent rise in thyroid cancer rates among Jewish women, and a 250 percent increase among Arab women, Health Ministry figures show. For men, the rise from 2000 is more moderate, but still shows a 41 percent increase in thyroid cancer rates for Jewish men.

"One of the explanations is that the rise is related to better technical methods of early detection of these growths, which have been developed in recent years. But other research shows that even after neutralizing this influence a rise in these growths still remains," said Feinmesser.

Just this week it was reported that mobile operator Partner Communications (Orange) reached a settlement with a customer who claims he contracted cancer after using the company's cellphones. The customer, who is in his 50s, sued Partner in May, claiming that intensive use of the device resulted in an aggressive lymphoma near his left ear. Partner agreed to pay NIS 400,000 in an out-of-court settlement.