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Mobile phones 'may trigger Alzheimer's'



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Mobile phones damage key brain cells and could trigger the early onset of Alzheimer's disease, a study suggests.

Researchers in Sweden have found that radiation from mobile phone handsets damages areas of the brain associated with learning, memory and movement.

The study, which was carried out on rats, is the latest twist in the long-running debate over whether mobile phones are a health risk.

Scientists have yet to find any conclusive evidence that mobile phones damage the human brain.

We have good reason to believe that what happens in rat's brains also happens in humans

Prof Leif Salford, Lund University

This latest study was carried out by Professor Leif Salford and colleagues at Lund University in Malmo.

Lab tests

They experimented on rats aged between 12 and 26 weeks. Their brains are regarded as being in the same stage of development as teenagers.

See also:

- 19 Jun 02 | Health Q&A: Mobile phone safety
- 06 Nov 99 | Health Mobile phone 'brain risk'
- 22 Aug 02 | Health Early mobiles 'brain tumour risk'
- 25 Jun 02 | Health Mobiles 'do not cause cancer'

Internet links:

- Independent Expert Group on Mobile Phones
- Environmental Health Perspectives
- Mobile Operators Association

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The rats were exposed to two hours of radiation, equivalent to that emitted by mobile phones.

Their brains were examined under a microscope 50 days later.

The researchers found that rats which had been exposed to medium and high levels of radiation had an abundance of dead brain cells.

Professor Salford said there was good reason to believe that mobile phones could have the same effect on humans.

"A rat's brain is very much the same as a human's. They have the same blood-brain barrier and neurons," he told BBC News Online.

"We have good reason to believe that what happens in rat's brains also happens in humans."

Professor Salford said that there was also a chance exposure to mobile phone radiation could trigger Alzheimer's disease in some people.

"What we are saying is those neurons that are already prone to Alzheimer's disease may be stimulated earlier in life.

"However, this theory is hypothetical. We do not have evidence yet that the human brain is affected in this way."

The study is published in Environmental Health Perspectives - the journal of the US government's National Health Institute of Environmental Health Sciences.

Writing in the journal, the researchers concluded: "We cannot exclude that after some decades of often daily use, a whole generation of users may suffer negative effects maybe already in their middle age."

Further research

Professor Salford said mobile phone users should not be alarmed by the findings.

"This is a negative finding and yes it doesn't seem to be particularly good.

"But this is one observation, in one laboratory with a small number of animals. This study will have to be repeated before we get alarmed.

"Nevertheless, it is strong enough to merit more research into this area."

But he added: "Perhaps putting a mobile phone repeatedly to your head is something that might not be good in the long term.

"Maybe we should think about restricting our use of mobile phones."

A UK-government funded study, published three years ago, found no evidence to suggest mobile phones affect health.

However, the report by the Independent Expert Group on Mobile Phones recommended that teenagers should only make essential calls and that these should be as short as possible.

A spokeswoman for the Mobile Operators Association dismissed this latest study.

She said: "Independent scientific review bodies in the UK and around the world have consistently concluded that the weight of scientific evidence to date suggests that exposure to radio waves from mobile phones operating within the international exposure guidelines do not cause health problems."

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