ON THE PULSE

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Can mobile phones cause brain tumours?

I don't have a brilliant memory, but occasionally something someone tells me does somehow stick in my mind. One such memory I have concerns a patient I saw some years ago. He had had a brain tumour (I forget what sort) removed, and was interested in supporting his convalescence and general health through nutrition. During our consultation he remarked that he had a son who had also had a brain tumour. I asked if his doctors thought there was any genetic link. He replied in the negative, and told me it was his opinion that mobile phones were the cause. This man went on to tell me that both he and his son were early adopters of this technology, and by their own admission were heavy users too.

Tumour 'matched' mobile use

He went on to tell me a story about an experience he had after he had had his operation. He was sitting in a packed waiting room full of post-surgical patients. Nearly all the patients in the room had had brain tumours removed and the scars to prove it. A conversation about mobile phones started in the waiting room, so my patient decided to take a straw poll there and then. All the patients who had had brain tumours turned out to be mobile phone users. Now, there's nothing particularly telling here I think, because mobile phone use is so common. However, my patient went one better in his poll by then asking each individual which ear they habitually held their mobile phone to. He reported to me that the side they indicated matched the side of their tumour in every case.

> This is a warning sign. We should be taking precautions

This is all purely anecdotal observation and all that, and doesn't prove a thing, but this memory came back to me this morning after reading about some research which was announced recently at the Royal Society during a conference held by the Radiation Research Trust. The research was conducted by a team led by Professor Lennart Hardell of the University Hospital in Orebro in Sweden. It has not been formally published yet, though from what I can make out, the data has come from a previously published piece of research from Professor Hardell [1].

The research focused on the risk of specific tumours in individuals who started to use mobile phones before the age of 20. Younger people were the target for this research because they are believed to be more susceptible to the electromagnetic radiation that emanates from mobile phones, partly because their skulls are thinner and may allow the radiation to penetrate deeper into the brain.

Teens more at risk

The research found that individuals who started mobile phone use before the age of 20 were at very significantly increased (more than 5-fold) risk of brain tumours known as 'gliomas' as well as benign (non-cancerous) tumours on the main nerve responsible for hearing known as 'acoustic neuromas'. According to reports, use of cordless home phones was at a significantly elevated risk of glioma too.

Individuals who started to use mobile handsets in their 20s were also at increased risk of glioma and acoustic neuroma, though the enhanced risk was smaller than that seen in the earlier users: risk of glioma and acoustic neuroma was up about 50 and 100 per cent respectively. Professor Hardell is quoted as saying: "This is a warning sign. It is very worrying. We should be taking precautions."

It is perhaps interesting to note Professor Hardell's previous work in this area, specifically a meta-analysis of studies looking at the relationship between mobile phone use and brain tumour risk [1]. Individuals using mobile phones in the long term (10 or more years) were found to be at an increased risk of glioma and acoustic neuroma on the side of phone use (risk was increased by 200 and 240 per cent respectively. Mobile phone use was not associated with increased risk of these tumours on the opposite side of the head to the one on which the phone is habitually held. The evidence as it stands supports the idea that long term mobile phone use is indeed associated with an increased risk of brain tumours, just like my patient thought it was all those years ago.

References:
1. Hardell L, et al. Meta-analysis of long-term mobile phone use and the association with brain tumours. Int J Oncol. 2008;32(5):1097-103.

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