Health

Mobile phone is a cancer hazard

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In today's fast-paced environment, there is no doubt that living without our mobile phone is a challenging thought. However, it is worth reminding everyone that mobile phones are a cancer hazard, particularly after 10 years of use. Independent research has found a relationship between frequent mobile phone use and brain tumours.

Even the major international Interphone study, which has relied heavily on industry-funded research, has had to conclude that the risk increases after 10 years of use. This is something almost everyone has been aware of; however, for many years, any discovery of a health hazard with mobile phones has been countered by other studies that have contradicted the findings.

This, then, creates an attitude of uncertainty, together with the fact that we rely so heavily on our mobiles that it is easier to dismiss the findings we don't like, and carry on regardless.

The main aim is to ensure everyone understands the final outcome, in much the same way the effects of smoking were made clear many years ago. It is then up to the user to make their own decision on how to proceed. The mobile phone industry has continued to grow exponentially worldwide, while at the same time contributing to the funds of most governments. Again, much the same as the tobacco industry did, and still does, but in a much smaller capacity.

"Mobile phone users have a 10-30 per cent greater risk of tumours"

A new study has pooled the results of 23 previous studies investigating mobile phones and the risk of tumours. This 'meta-analysis' by an American-Korean team involved nearly 38,000 subjects and examined whether mobile phone users have a higher risk of malignant (cancerous) or benign tumours of the brain or head and neck. (*J.Clin.Oncol.*, 2009).

The study co-author, Joel A. Moskowitz, told the *Los Angeles Times*,: "I went into this really dubious that anything was going on… Overall, you find no difference. But when you start teasing the studies apart and doing subgroup analyses, you do find there is reason to be concerned."

In fact, according to the high-quality studies, mobile phone users had a 10-30 per cent greater risk of tumours compared with those who rarely, or never, used such phones. Also, the risk was highest among those who had used mobiles for 10 years or more.

Interestingly, the high-quality studies were mostly conducted by oncologist Lennart Hardell and his team in Sweden and were independent of industry funding.

Alternatively, the low-quality studies tended to come from the Interphone project, a 13-country investigation partly funded by the Mobile Manufacturers Forum and the Global System for Mobile Communications Association.

Dr Hardell's research found there was a threefold greater risk of tumours starting in the star-shaped glial cells on the same side of the head as the phone is held among those using phones for 10 years or more. The risk was highest among those who first started using a mobile under the age of 20. Similar results were found for acoustic neuroma, a tumour that affects the auditory (hearing) nerve (*Int. J. Oncol.*, 2009).

Other significant findings were: for every 100 hours of mobile use, the risk of brain cancer increases by five per cent. For every year of mobile use, the risk of brain cancer increases by eight per cent and after 10 or more years there is a 280 per cent greater risk of brain cancer.

Other findings include the fact that the higher the cumulative hours of mobile use, the higher the risk; the more power radiated from the mobile during use, the higher the risk; and the greater the exposure on the same side of the head as the tumour, the greater the risk. Finally, and more worryingly: the younger the user, the higher the risk.

It is worth mentioning that the Interphone study stated that mobile phone use protected against brain tumours. However, this statement was questioned at an address by Prof. Bruce Armstrong, principal investigator of the Australian arm of the Interphone study. In fact, 11 major design flaws have been identified, which may have compromised the study's results.

Although independent and industry-funded studies tend to be contradictory, in general they appear to agree that long term use (10 years or more) is associated with an increased risk of brain tumours, particularly when the use is on the same side of the head. This seems feasible, as cancer usually takes years after the initial exposure to manifest, and it is also likely that the side of the brain on which the phone is usually held will have the highest radiation exposure and be the most vulnerable. (*Int. J. Oncol.*, 2009).

Next week, I would like to look at other health problems which have been linked to mobile phone use, the effects on children, and tips on how to avoid the worst effects of mobile use.

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