Does the Use of Cell Phones Cause Brain Tumors?

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Myth: Cell phones and other similar technology increase the risk of brain tumors.

Answer: Lawsuits and news headlines have fueled the myth that cell phones cause cancer, particularly brain cancer. According to a survey by Gansler (2008), about 30% of Americans believe the myth.

Cell phones are clearly visible in society. Statistics show that 79% of the U.S. population and 90% of European and Asian teens own a cell phone (Infoplease, 2008; Jannsens, 2005). Cell phones are convenient and can be used at almost any location. New technology such as cameras, computer data storage with downloads, and wake-up calling have led to increased use (Jannsens).

A cell phone works like a radio, with both the portable phone and the ground antennae emitting nonionizing electromagnetic radiation in radiofrequency zone from 824–924 megahertz (MHz). Digital phones use frequencies up to 1,900 MHz. In comparison, the average household microwave uses 450 MHz of electromagnetic radiation (Jannsens, 2005).

The primary concern of cell phone use has been the risk of cancer to exposed tissues close to the phone. Meninges, brain, parotid gland, and acoustic nerves all are exposed to nonionizing electromagnetic radiation (Auvinen et al., 2006). A study by Hardell et al. (2002) found an “increased risk of brain tumors associated with the use of analog cellular phones” (p. 380) over a 10-year period in 1,358 adults. The findings were similar to those of previous studies (Hardell, Nasam, Pahlson, Hallquist, & Mild, 1999; Hardell, Nasman, Pahlson, & Hallquist, 2000; Hardell, Mild, Pahlson, & Hallquist, 2001). Digital cell phone and cordless phone use, however, showed no significant increased risk for brain tumors overall with a five-year latency period (Hardell et al., 2002). Other studies have found no increase in brain tumors associated with the use of cell phones (Johansen, Boice, McLaughlin, & Olsen, 2001; Klaeboe et al., 2007).

Auvinen et al. (2006) analyzed 15 epidemiologic studies on cell phone use and cancer published through 2005 and found that “overall there is substantial evidence indicating that ever or regular mobile phone use is not associated with the risk of intracranial tumors” (p. 517).

Worldwide Studies

According to the U.S. Food and Drug Administration ([FDA], 2003), the research completed has produced conflicting results and many of the studies have suffered from flaws in their research methods.

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