

## **BioInitiative Report:** Medical concerns intensify over deadly brain tumors from cell phone use / Orebro University Hospital, Orebro, Sweden/November 17, 2017

A new update from the BioInitiative Working Group 2017 shows the evidence has strengthened for brain cancers related to wireless phone use. The Group has released an update analyzing scientific results of case-control studies published between 2010 and 2017 on cancers of the brain.

For glioma, a malignant brain cancer with a very poor survival rate especially for high-grade glioma, there is nearly a doubling of the risk overall if the cell phone is used for 1,640 hours or more. If the cell phone is used primarily on the same side of the head however, the odds of getting a tumor on that side of the head increase to more than two and a half times compared to those with no wireless phone exposure.

Survival time after brain tumor diagnosis is also shorter with wireless phone use in patients with glioblastoma multiforme, compared to patients with no use.

"There is a consistent pattern of increased risk for glioma (a malignant brain tumor) and acoustic neuroma with use of mobile and cordless phones" says Lennart Hardell, MD, PhD, Orebro University, Sweden, according to publications through mid-2017. "Epidemiological evidence shows that radiofrequency should be classified as a Group 1 (Known) Human Carcinogen. The evidence for risks to health from brain tumors has substantially increased since 2010. The existing FCC/IEEE and ICNIRP public safety limits are not adequate to protect public health."

An increased risk in acoustic neuroma (a non-malignant tumor of the auditory nerve) is also reported. Cell phone users with 1,640 hours or more of use are nearly two and three-quarters more likely than non-users to develop an acoustic neuroma when the phone is used primarily on the side of the head where the tumor occurs.

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(From BioInitiative Report Supplement 11, 2017, Hardell and Carlberg)

In Table 1 results for highest cumulative use in hours of mobile phones is given. All studies reported statistically significant increased risk for glioma and the meta-analysis yielded odds ratio (OR) = 1.90, 95 % confidence interval (CI) = 1.31-2.76. For ipsilateral mobile phone use the risk increased further to OR = 2.54, 95 % CI = 1.83-3.52 in the meta-analysis based on 247 exposed cases and 202 exposed controls.

Results for use of mobile phones in Interphone (2011) and Hardell et al., (2013) are given in Table 3. Statistically significant increased risk was found for cumulative ipsilateral use  $\geq$  1,640 hours yielding OR = 2.71, 95 % CI = 1.72-4.28.