

Studies on Cell Phone Radiofrequency Radiation Comments to the Board of Scientific Counselors

Annie J. Sasco, MD, MPH, SM, DrPH, HDR

Epidemiology for Cancer Prevention

Past IARC-WHO Unit Chief

Former *INSERM* (French NIH) Director of Research

Bordeaux University, France

The opinions expressed in this talk are solely those of the speaker (AJS) and should not be considered as official positions of the *Inserm*, the University or the IARC-WHO

Who am I?

- I am a **physician** having spent the past 35 years working as a **cancer epidemiologist**
- An **MD** and **3 Harvard degrees** (MPH, SM Bio-Epi, DrPH Epi, Bio, Evaluation)
- Former Director of Research at the *INSERM* (French NIH)
- **Former Unit Chief of Epidemiology for Cancer Prevention at IARC-WHO**
- Former Acting Chief of Programme for Cancer Control at WHO
- **Over the decades switching** from behavioral and life-style risk factors to environmental ones

Summary of evidence at the time of the IARC Monograph meeting (2011) on RFR and cancer

- **Limited evidence in humans**
- At that time, 5 case-referent studies and 1 cohort study had been published and were evaluated.
- Mostly the evidence came from the Nordic studies and INTERPHONE study on glioma and acoustic neuroma
- **Limited evidence in experimental animals**
- The experimental studies covered quite a range of types of studies, species of animals and studied outcomes with somewhat discordant results (some positive, some negative).
- **Other relevant studies** did provide inconclusive evidence on potential mechanisms of carcinogenicity.
- **Evaluation: Group 2B**

What did we learn since 2011?

- **Epidemiology**
- More studies (CERENAT, Cephalo) confirmed the increased risk among the most heavily exposed
- **Experimental studies**
- **NTP study**: at the March external review 7 evaluations were upgraded for the study in rats (2 from *some* evidence to *clear* evidence, 3 from *equivocal* to *some* evidence and 2 from *no evidence* to *equivocal*). This happened for male rats, except for the last two being seen in females
- Ramazzini study: increases in the same tumours than in the NTP study were seen for rats exposed to much lower levels of exposure to RFR
- **This provides argument for a future re-evaluation by IARC (after publication of the MOBI-KIDS results)**

What to do next?

- Need for **further experimental studies** on other RFR **before** new equipment is launched (5G)
- Need to increase the size of studies, in particular the unexposed group
- Need to consider other analyses, such as considering all exposed as one group *versus* unexposed and also analysis of the overall tumor burden with correction for survival if needed

To be pragmatic

- **Abolute need to keep on having independent agencies conducting valid, thorough evaluations**
- **Need to keep on funding agencies such as NIEHS and IARC, as well as other institutions dealing with the health of populations.**

