

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

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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.**

