Reviewer's report

Title: No effects of GSM-modulated 900 MHz electromagnetic fields on survival rate and spontaneous development of lymphoma in female AKR/J mice.

Version: 2 Date: 1 August 2004

Reviewer: Claudio Pioli

Reviewer's report:

General

In their revised version the authors added further information and clarified some aspects of the search carried out. They also changed some results on body weight as compared to the previous version. This corrections, as the authors say, is due to a mistake occurred during the unmasking of the exposure code. However, some of the major points have not been addressed completely.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The authors addressed this point.

2. The authors added a statement explaining they considered “groups of mice in the front and rear section of the cages as well as mice with head, left/right side toward the incidence wave and upright posture”. What is not clear is the relative contribution of these positions to the computational analyses. Mice tend to group in resting phases and actively move in other phases. The time each mouse spend in a group configuration (in the rear or front section) or as single individual moving in the cage affects the exposure level and its variance. Did the authors consider a different time for each configuration? Did they observe the animals prior exposure and/or during exposure to draw an appropriate model? Better description of these variables and of how the “relative” contribution of the different configurations has been attributed are required.

3. The authors addressed this point.

4. The authors addressed the first part of this point. The second part has not been addressed, but, as explained in a previous e-mail, it was not mandatory.

5. Results are shown as lymphoma-associated mortality and no statistically significant differences appear (fig.3). AKR/J mice develop, as confirmed by the control group, lymphomas at very high incidence. The authors agreed that it might be difficult to see an increase due to electromagnetic field exposure in this model. The authors also state that “the time between first signs of the disease and death is very short. Few hours or few days. Therefore, as it was written in the methods section, animals were sacrificed as soon as we noticed that they were ill. Accordingly tumor detection is equivalent to mortality and not shown additionally”. In the previous review it has been asked to the authors to show data on the time to tumour, as a different kinetics in tumour onset might be a more sensitive parameter. As explained in the previous review, the time to tumour is the time when a tumour is first detected by necropsy, including microscopic analysis, and not the time when “clinical” signs are evident. This point has not been addressed.
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

This point has been addressed

Discretionary Revisions (which the author can choose to ignore)

Due to the change in the results on body weight, the authors added new comments in the discussion section. As they conclude that this point needs specific studies on mouse metabolism, the new considerations on mitochondrial heat production might be shortened.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

None