Reviewer's report

Title: Antitumor effectiveness of different amounts of electrical charge in Ehrlich and fibrosarcoma Sa-37 tumors

Version: 1 Date: 10 August 2004

Reviewer: Henrik von Euler

Reviewer's report:

General

In the manuscript submitted, the authors describe experiments and results obtained in vivo of electrochemical treatment of tumors (DEC). Specifically they address the question of necrosis in the electrode vicinity and tumor size reduction (reduction in doubling time) in an animal tumor model. One of the prime motivations as it can be understood from the manuscript is that “the mechanism of action is poorly understood”. From the references quoted at the end of the manuscript it is evident that the authors are aware of past and current developments. Because of this it seems somehow illogical that such a statement is made already at the beginning of the manuscript, as it clearly does not help establishing and promoting this treatment as obviously would be the ultimate goal of their research. It has been however quite clearly shown that primary mechanisms are related to (bio)chemical changes around the electrodes (predominantly pH changes). I would as a reviewer and as a representative of potential readers appreciate if they could state their motivation for this research more clearly and relate the importance of their results to a practical application.

Although the manuscript is correct in general terms there are some questions and comments written below that need to be addressed by the authors.

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

1) Was the experiment approved by an ethical committee or did the authors follow an animal welfare act? This should be stated clearly. The reviewer finds it unlikely that the animals did not show any signs of inconvenience during a firm fixation of around 1 h during DEC. Moreover one of the animals did in fact die 1 d post op due to damages in the lungs, because of high charge (P 8 line 1). Without anaesthesia it is impossible to think that this animal did not show any type of discomfort during DEC. The authors should explain how they assured that the animal accepted the treatment without anaesthesia. Was breathing, pulse and or body temperature recorded during DEC?

2) The text is generally easy to understand but suffers from grammatically incorrect English and some spelling mistakes. The manuscript should be proof read by a professional English proof reader before resubmission.

3) Reference numbers do not agree with the actual reference. Reference no 10 (in the text) “Olsson 2002” is missing in the reference list.

4) References in Spanish (and any other language than English) should be avoided if possible. Authors are advised to omit or replace references no. 6 (Bergues LC 2002) and no. 14 (Cotran RS et al. 1999).
5) P 6 line 20: How high was the mortality in mice treated with charge above 100C/cm³? How many animals were used? This should be mentioned or else followed by “data not shown”.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1) Figures and tables: Abbreviation used must be explained, either in the diagram or in the accompanying text. At least it should be explained which one is the control and the charge or coulomb used in the treatment groups. Moreover the number of animals in each group must be included.

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Discretionary Revisions (which the author can choose to ignore)

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: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

None