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LETTER TO THE EDITOR

The role of electrochemotherapy in the treatment of metastatic head and neck cancer

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To the Editor: We would like to take the opportunity to comment on the paper by Mevio *et al.*[1] in the May-June 2012 issue of *Tumori* titled "Electrochemotherapy for the treatment of recurrent head and neck cancers: preliminary results".

Electrochemotherapy (ECT) is a novel anticancer treatment whose efficacy in the head and neck area has yet to be proven. The first clinical trials were performed mainly on patients affected by recurrent tumors with palliative purposes or when there was a contraindication to surgical or radiochemotherapy treatment[1-3].

The study highlights the efficacy of ECT in the treatment of the primary tumor. In fact, the authors reported a 61.5% complete response rate and a 32.5% partial response rate and all responding cases involved primary tumors or recurrences at the primary site. However, the study points out the failure in the treatment of metastatic cervical lymph nodes: "The two pathologic lymph nodes we treated, even if less than 3 cm in their maximum dimension, showed no significant response. There are no sufficient data in the literature to verify this evidence. Burian et al.[4] only mention that in this case it should be better to perform a neck dissection" [1].

The results reported in the study are consistent with those of our series of 7 cases including 4 recurrent primary tumors, 2 lymph node metastases, and 1 primary parotid adenocarcinoma. We obtained a complete response in the 4 recurrent primary tumors whereas we had no response in the 2 lymph node metastases in the neck.

With this letter we would like to illustrate some observations based on our limited ECT experience. Since we performed ECT in case of contraindications to surgery or radio- and/or chemotherapy, our 2 cases were patients with lymph node metastases after radiochemotherapy and radiological signs of carotid infiltration, which is a contraindication to lateral neck dissection.

As the treatment reaches its greatest effectiveness when the entire tumor mass is crossed by an effective electric current for electroporation[2], and considering the carotid involvement, we tried to find a solution that would 1) contemplate the need to treat all or almost all of the neoplastic mass; 2) minimize the risk of carotid artery damage.

In order to achieve these goals we carefully studied the patients' CT and MRI scans, identifying the areas where we could use electrodes with longer needles and others where we had to use electrodes with shorter needles. Thus, for example, if the CT scan documented a skin-carotid distance of 2.3 cm, we treated the area with a 2-cm needle electrode. This strategy, however, proved to be ineffective because

the irregularity of the skin surface involved by the lesion did not allow the needle to penetrate the tumor evenly throughout;

due to the firmness of the tissue, it was necessary to exert strong pressure at the insertion point. This maneuver resulted in distortion of the surrounding tissues. As a result, structures which in normal conditions were 2 cm distant from the skin were closer at the time of compression. Because of this phenomenon we performed electroporation in areas we did not want to treat and therefore risked damaging vital structures that we wanted to save (for example, the carotid artery).

For these reasons we believe that it is more difficult and inaccurate to treat metastatic lymph nodes without the support of real-time imaging. In fact, lateral cervical metastatic lymph nodes, even when they are superficially located, often maintain close relationships with vital deep structures. Our proposal is to insert the needle under ultrasound guidance. This strategy would allow to save vital structures and to guarantee effective treatment of all or almost all of the lesion. At this point, when we are sure the entire mass has been effectively treated, we could obtain more accurate data on the effectiveness ECT in the treatment of lymph node metastases of the neck.

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