



Newsletter No. 49

Electrochemotherapy competes with surgery in treatment of basal cell carcinoma

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Incidence of skin cancer, i.e. basal cell carcinoma is rising, posing a global problem for easy and effective treatment. Surgery is the treatment of choice with high success rate, almost 100 %. However, tumors frequently recur, and if on specific site on the face, surgery can be mutilating. Surgery has a limited role also at recurring or multiple lesions.

Electrochemotherapy (ECT) has recently become more recognized in the surgical community, with publication of multicenter publications on larger cohorts of patients. This is specifically the contribution of [the InspECT group](#), which collects the clinical data from several cancer centers and therefore is able to pool the data on patients that are treated according to the established standard operating procedures [1].

Therefore, electrochemotherapy has been recognized a treatment option for different tumors in several EU countries [2]. Of special importance was the recognition of electrochemotherapy for treatment of basal cell carcinoma in NICE guidelines. In these guidelines, electrochemotherapy is recommended when the medical board, or specifically the patients, select it.

Over the years of electrochemotherapy development, we were missing randomized clinical trials that would compare electrochemotherapy to surgery, or any other standard treatment. In this respect, recently published clinical trial on treatment of basal cell carcinoma with electrochemotherapy represents a milestone in development of electrochemotherapy. The paper was published in the renowned European Journal of Surgical Oncology [3]. The principal investigator, Dr. A.J.P Clover from Cork University Hospital and Cancer Research Centre, Ireland, reports on treatment effectiveness of electrochemotherapy on primary basal cell carcinoma in randomized control trial, comparing electrochemotherapy to surgery with five year follow up.

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The results of the trial are superb, since electrochemotherapy has proved as effective as surgery in treatment of primary basal cell carcinoma. As the authors conclude: "Electrochemotherapy is an effective durable treatment option for primary basal cell carcinoma and should be considered as part of armamentarium of options available."

A 100 % tumor eradication with durable response was achieved after the surgery as well after the electrochemotherapy. Single treatment of primary basal cell carcinoma was effective in 88 % of lesions treated by electrochemotherapy and in 96 % treated by surgery, the recurring lesions of either of the treatments were successfully controlled with the repetition of the treatment.

Dr. Clover and his colleagues describe: "The advantages of electrochemotherapy to be two fold; one it appears to be well tolerated in patients with significant co-morbidities that might otherwise be less than ideal candidates for resection and staged reconstruction, secondly as a procedure it is well tolerated in tissue that has been subject to previous treatments such as surgery or radiotherapy, side effects are relatively rare and the dose of the chemotherapeutic can be minimized with intra-tumoral injection."

It has been a long and winding road for electrochemotherapy so far. New treatment modalities are not easily recognized and listed among standard treatments, but this trial is the first randomized one that provides new evidence that will pave the way for electrochemotherapy toward recognition as a standard treatment for solid tumors, especially basal cell carcinoma.

[1] Campana LG, Edhemovic I, Soden D, Perrone AM, Scarpa M, Campanacci L, Cemazar M, Valpione S, Miklavcic D, Mocellini S, Sersa G. Electrochemotherapy – Emerging applications, technical advances, new indications, combined approaches, and multi-institutional collaboration. *Eur J Surg Oncol* 2019 45: 92e102.

[2] Campana LG, Miklavcic D, Bertino G, Marconato R, Valpione S, Imarisio I, Vittoria Dieci M, Granziera E, Cemazar M, Alaibac M, sersa G. Electrochemotherapy of superficial tumors – Current status: Basic principles, operating procedures, shared indications, and emerging applications. *Sem Oncol* 2019; 46: 173-91.

[3] Clover AJP, Salwa SP, Bourke MG, McKiernan J, Forde P, O'Sullivan ST, Kelly EJ, Soden D. Electrochemotherapy for the treatment of primary basal cell carcinoma; A randomised control trial comparing electrochemotherapy and surgery with five year follow up. *Eur J Surg Oncol* 2020; 46(5): 847-54.

Forthcoming events

Electroporation-Based Technologies and Treatments

Ljubljana, November 15 – 21, 2020

<http://2020.ebtt.org>

8th European Medical and Biological Engineering Conference – EMBEC 2020

Portorož, November 29 – December 3, 2020

<http://embec2020.org/>

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Complete tumor regression after electrochemotherapy of basal cell carcinoma treated at the University Medical Centre, Slovenia.

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