



Invited Commentary

A Commentary on “Electrochemotherapy for advanced cutaneous angiosarcoma: A European register-based cohort study from the International Network for Sharing Practices of Electrochemotherapy (InspECT)” (Int J Surg 2019; Epub ahead of Print)

Progress in treating rare cancers is hindered by the difficulty in execution of large-scale randomized clinical trials. Consequently, well designed observational studies play an important role in deriving much needed evidence. Cutaneous angiosarcoma (cAS) has a very low incidence of 2–5 cases per 1000000 per year and very poor prognosis with early propensity for metastasis and a 5-year survival of 33.5% [1]. Hence, there is a great need for high quality observational studies in order to form standardized treatment options.

It was my pleasure to read the article by Campana and colleagues in this month's issue of International Journal of Surgery. This study proposes electrochemotherapy as a novel treatment modality that could improve progression free survival and provide palliation to patients with advanced cAS, without adding significant toxicity [2].

CAS has a very aggressive course with a high risk of recurrence even after complete surgical resection. The standard of care for patients with cAS is surgical resection followed by postoperative radiation. In the setting of advanced, unresectable or metastatic disease, systemic therapy is required. Treatments that have been reported include cytotoxic chemotherapy such as Paclitaxel and Adriamycin, anti-angiogenesis therapy such as Bevacizumab and multikinase inhibitor therapy such as pazopanib, while there is an ongoing trial assessing the role of immunotherapy. Single agent Paclitaxel has demonstrated the highest efficacy with a 6-month progression free survival of 54% [3].

Electrochemotherapy is a therapeutic modality that enhances delivery of anticancer drugs to the cell interior. It is based on the local application of electric pulses that permeabilize the cell membrane, thus facilitating the transport of cytotoxic agents into the cytoplasm. Electrochemotherapy with Bleomycin was used to treat a patient for the first time in 1991, at the Institute Gustave Roussy in France. Since then, more than 4000 patients were treated with electrochemotherapy worldwide. In several Phase II and III clinical studies that included patients with cutaneous metastatic tumors, electrochemotherapy has demonstrated an objective response rate of more than 80% [4].

In the study by Campana et al., electrochemotherapy emerges as a novel treatment modality for advanced cAS, that offers progression free survival benefit with acceptable toxicity. The observed 12-month local progression free survival of 68% compares favorably with historic data on conventional chemotherapy and targeted therapies. From the toxicity and quality of life point of view, there were no serious adverse events and more than 90% of the patients found the treatment tolerable.

Given the very low incidence of cAS, it is unlikely that this disease will be subject of large-scale clinical trials. Nevertheless, the multifocal nature and abysmal prognosis of this malignancy underscores the unmet need for effective systemic therapy. Since the response rate to conventional chemotherapy has been poor, the use of electricity to sensitize cancer cells to chemotherapy emerges as a promising therapeutic strategy. According to the results by Campana et al., electrochemotherapy should have a central role in the therapeutic armamentarium for advanced cAS.

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