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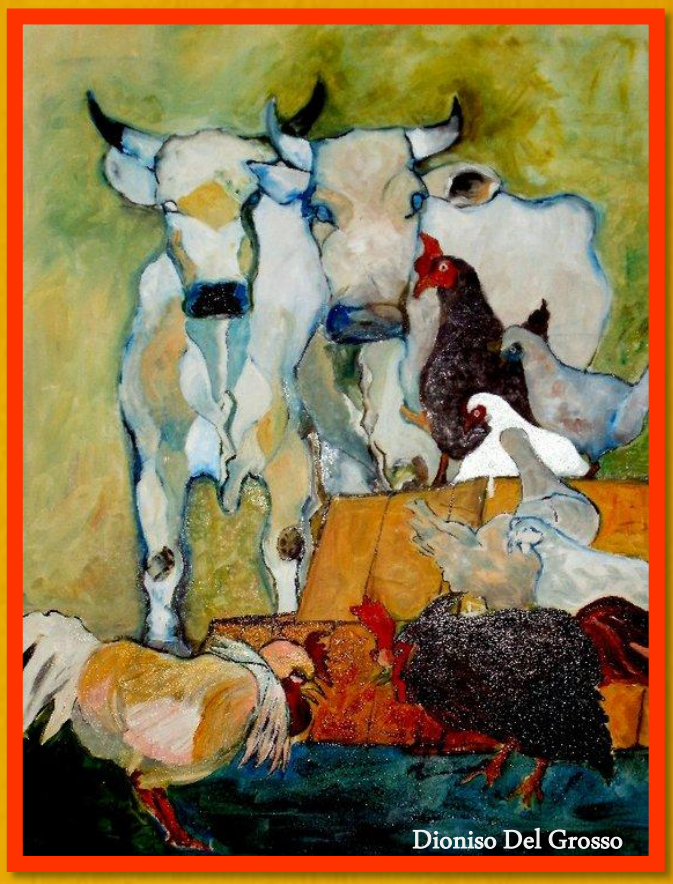

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XVIII Convegno SICV

XVI Convegno SIRA

XV Convegno AIPVET

X Convegno ARNA

V Convegno RNIV

II Convegno ANIV

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72° CONVEGNO SISVET

TREATMENT OF CANINE ORAL SQUAMOUS CELL CARCINOMA USING ELECTROCHEMOTHERAPY. A CASE SERIES REPORT

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Non-tonsillar squamous cell carcinoma (SCC) is the second most common oral tumor in dogs [1]. It is locally aggressive with a low-moderate rate of metastasis. Surgery and radiation therapy can both be used for local control. However, these two treatments are not always feasible due to owner's willing or financial concerns. Electrochemotherapy (ECT) is a local ablative technique that uses electric pulses to enhance the intracellular diffusion of cytotoxic drugs and can be used to treat several types of solid tumors [2].

The aim of the study was to evaluate the feasibility of ECT in the treatment of oral canine SCC. Twelve dogs with SCC were retrospectively enrolled (March 2005 – October 2017). ECT was combined with IV bleomycin (15000 UI/m2): alone in 11 cases and post-surgery in one. Two pulse generators were used: Cytopulse Oncovet® (6 cases) and Cytopulse PA4000® (6). The following parameters were considered: tumor size, clinical staging (TNM), electroporation parameters, response rate (RR), (as complete remission [CR] and partial remission [PR]; RECIST guideline) [3], median survival time (MST, time from diagnosis to death or to the last follow-up), recurrence rate, disease-free interval (DFI, median time from ECT treatment to recurrence) and treatment toxicity (6-point scale) [4]. The median size of the tumors was 1.65 cm (range 0.3–8 cm). TNM was as follows: 6/12 T1, 3/12 T2 and 3/12 T3. The pulse frequency used was 5 kHz in 6 dogs and 1 Hz in 6 dogs. The voltage used was 1,200 V for 8 cases and 1,000 V for 4. The RR was 92% (11/12; 9 CR and 2 PR). Two dogs underwent a second ECT treatment. Seven dogs died during the study period and 3 experienced recurrences. MST for dogs dead with the tumor (n=2) was 110 days and for dogs dead without the tumor (n=5) was 923 days. Among the remaining 5 surviving dogs, one experienced tumor recurrence and 4 were considered in CR at the last follow up. Overall tumor recurrence rate was 33.3% (4/12 cases). Median DFI and MST for dogs with recurrence were 48.5 days (range 9-83) and 118 days (range 99-1891), respectively. All dogs with T1 stage SCC obtained CR and showed no recurrence (median follow-up 1112 days). Treatment toxicity was ≤2 in 11/12 dogs and only one experienced 3 points of toxicity. No associations were noticed between tumor size, T stage, voltage or pulse frequency and treatment efficacy or toxicity. ECT for canine oral SCC could be seen as an alternative treatment to excisional surgery or radiation therapy. However, more cases should be collected and investigated in a prospective trial in order to compare ECT with the other standard treatment.

[1] Hauck, In Withrow and MacEwen's Small Animal Clinical Oncology, Elsevier Health Sciences, 5th ed., 2013. [2] Tozon et al. Operating Procedures of the Electrochemotherapy for Treatment of Tumor in Dogs and Cats, Journal of visualized experiments: JoVE, 116, 2016. [3] Nguyen et al. Response evaluation criteria for solid tumours in dogs (v1.0): a Veterinary Cooperative Oncology Group (VCOG) consensus document, Veterinary Comparative Oncology 13:176-183, 2015. [4] Lowe et al. The treatment of canine mast cell tumours with electrochemotherapy with or without surgical excision, Veterinary Comparative Oncology, 15: 775-784, 2017.