

# Fourth Meeting of the European Canine Lymphoma Group, CH-Lugano, June 22<sup>nd</sup> 2019 How to stage Canine Lymphoma in 2019

## Workshop Proceedings

Edited by

**Franco Guscetti**

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**A11 Tel-eVax: a genetic vaccine targeting telomerase for treatment of canine lymphoma (Poster)**

<sup>1</sup>J.A. Impellizeri, <sup>2</sup>A. Gavazza, <sup>1</sup>E. Greissworth, <sup>3</sup>A. Crispo, <sup>3</sup>M. Montella, <sup>4</sup>G. Ciliberto, <sup>5</sup>G. Lubas, <sup>6,7</sup>L. Aurisicchio

<sup>1</sup>*Veterinary Oncology Services, PLLC, New York, NY;* <sup>2</sup>*School of Biosciences and Veterinary Medicine, University of Camerino (MC), Italy;* <sup>3</sup>*Istituto Nazionale Tumori "Pascale", Napoli, Italy;* <sup>4</sup>*Istituto Nazionale Tumori "Regina Elena", Rome, Italy;* <sup>5</sup>*Department of Veterinary Science, University of Pisa, Pisa, Italy;* <sup>6</sup>*BIOGEM scrl, via Camporeale, 83031 Ariano Irpino (AV), Italy;* <sup>7</sup>*Evivax, Rome, Italy*

**E-mail of presenting author:** [george.lubas@unipi.it](mailto:george.lubas@unipi.it)

**Introduction.** Tel-eVax, a genetic vaccine targeting dog telomerase (dTERT) and based on Adenovirus (Ad)/DNA-Electro-Gene-Transfer (DNA-EGT) technology combined to COP therapy has been previously shown to induce a strong immune response and increase overall survival (OS) of dogs with multicentric Diffuse Large B-cell Lymphoma (DLBCL).

The objectives of this study were: 1) to clinically validate a new device for veterinary electroporation called Vet-ePorator™, based on Cliniporator™ technology (currently approved in Europe for electrochemotherapy applications and adapted to EGT); 2) to combine Tel-eVax with a 27-week Madison Wisconsin CHOP protocol for the treatment of DLBCL and compare OS with historical controls from the same geographical area treated with CHOP.

**Materials and Methods.** Seventeen dogs affected by DLBCL were vaccinated using two Ad vector injections (Prime phase) followed by DNA-EGT (Boost phase) by means of a Vet-ePorator™ device and concomitantly treated with CHOP. The immune response was measured by previously described ELISA assays using a pool of peptides. The vaccinated animals were closely monitored for body weight, temperature and abnormal values in hematological parameters to monitor signs of toxicity and/or to detect indications of autoimmunity.

**Results.** No significant adverse effects of Tel-eVax were observed. The OS of vaccine/CHOP animals was 64.5 weeks (range: 47.1-87.05), in line with the previous study. Sixty-seven percent of assessable dogs developed antibodies against the immunizing antigen. An indirect comparison between the 17 patients treated in this study with the dog cohort of lymphoma patients described by Wilson-Robles et al. (2017) in the same geographical area (452 and 244 days, respectively) suggests a ~ 2-fold OS increase, in line with our previous findings.

**Conclusions.** Tel-eVax in combination with CHOP is safe and immunogenic in lymphoma canine patients. These data confirm the therapeutic efficacy of dTERT vaccine and hold promise for the treatment of dogs affected by other cancer types.