Use of an autologous platelet therapy in police working dogs with hip osteoarthritis

Alves J.^{1,2, *}; Santos A.¹; Jorge P.¹; Lavrador C.²; Carreira L. Miguel^{3,4}

¹Guarda Nacional Republicana; ²IMED – Mediterranean Institute for Agriculture, Environment and Development, Universidade de Évora; ³Interdisciplinary Centre for Research in Animal Health (CIISA) – University of Lisbon, (FMV/ULisboa) – Portugal. ⁴Anjos of Assis Veterinary Medicine Centre; *alves.jca@qnr.pt

OBJECTIVES:

To describe the effect of the platelet concentrate V-PET in dogs with hip osteoarthritis (OA).

MATERIALS AND METHODS:

Forty joints of active police working dogs with hip OA were randomly assigned to control and V-PET groups;

Weight bearing distribution, joint range of motion, thigh girth, radiographic signs, and four clinical metrology instruments (CMI) were recorded at treatment day, 8, 15, 30, 90, and 180-days post-treatment;

Results were compared with repeated measures ANOVA, with a Huynh-Feldt correction, or Wilcoxon Signed Ranks Test, with $p < 0.05$. Kaplan-Meier estimators were conducted and compared with the log-rank test.

RESULTS:

Patients had a mean age of 6.5 ± 2.4 years and bodyweight of 26.7 ± 5.2 kg. At T0, 32 (80%) joints were graded as mild, 6 (15%) as moderate, and 2 (5%) as severe OA. No differences were found between groups on treatment day.

Weight-bearing showed significant improvements with V-PET from 8 days ($p < 0.01$) up to 180 days ($p = 0.01$), as joint flexion up to 90 days ($p = 0.05$), and extension up to 180 days ($p = 0.01$).

Several CMI scores improved up to 90 to 180 days post-treatment.

Kaplan-Meier estimators showed significantly better CMI and weight-bearing results in the V-PET group (Figures).

Fig. 1 – Police working dogs.

IMPACT:

A single injection of V-PET had a positive effect on several clinical and imaging signs, lasting up to 180 days.

ACKNOWLEDGEMENTS:

The authors would like to thank the PALL Corporation for providing the kits used in this study.