ABSTRACTS

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OVARIAN BLOOD FLOW OF BITCHES DURING THE LUTEAL PHASE AFTER AGLEPRISTONE ADMINISTRATION

Scotti L.1, Brecchia G.2, Boiti C.2, Polisca A.1

1Department of Pathology, diagnostic, and veterinary clinic; 2Department of Biopathological science, hygiene of animal and food productions, University of Perugia, Via S. Constanzo 4, 06126, Perugia, Italy.

Objectives - The progesterone receptor antagonist, Aglepristone, was administered to non-pregnant bitches during the luteal phase to examine the haemodynamic changes of ovarian blood flow.

Materials and methods - Eight German shepherd were monitored by Colour-Pulsed Wave (CPW) and Power Doppler (PD) ultrasonography, two-three times a week during the whole diestrous to measure peak systolic velocity (SPV), end diastolic velocity (EDV), and both resistance (RI) and pulsatility indices (PI). The total number of colour pixel was assessed by a computer assisted image analysis system. Each parameter was automatically calculated at the end of three different observations. From day 1 of cytological diestrous, blood samples were collected twice a week for the following 65 days by venopuncture of the radial vein to determine serum progesterone concentrations (P4). Progesterone was assayed by a commercial RIA kit (DLS, Webster, Texas). Data were evaluated by Student’s t test. The bitches were randomly assigned to either control or treated group. On days 21 and 22 of diestrous, control bitches (n=4) received s.c. saline solution (0.3 ml/kg body weight), while treated ones (n=4) aglepristone (Alizine®, Virbac Laboratories, Carros, France) at the dose of 10 mg/kg.

Results - From day 30 onward, Aglepristone treatment reduced (P<0.01) SPV, EDV, and the number of colour pixel, but increased (P<0.01) RI and PI, concomitantly with P4 decline. Functional luteal regression was accompanied by a gradual decline in ovarian blood supply (1) and all the blood flow parameters were undetectable at 48 ± 4.6 and 60 ± 2. days 2 in treated and control bitches, respectively. The length of luteal phase of treated bitches was shorter (P<0.01) than that of control bitches. Functional luteolysis begun at day 28.1 ± 2.3 of diestrous in treated bitches and at day 37.2 ± 5.7 in controls. Complete luteolysis (P4 values < 2 ng/ml) was observed at day 40.6 ± 9.8 in treated bitches and 23 days later (P<0.01) in control ones, at day 63.4 ± 5.2. Present results confirm the antiluteotropic action of aglepristone in the bitch as previously reported (2) and suggest a strict link between ovarian blood flow and functional demise of corpora lutea as assessed by circulating progesterone. Ovarian doppler ultrasonography is a valid technique to monitor luteal function. In addition, power doppler, by visualizing small diameter vessels, is an equally valid method that greatly reduces the examination time of CPW.

References
