

Severe subinvolution of placental sites in a bitch after an eleven-puppies C-section.

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Introduction

Subinvolution of placental sites (SIPS) is a condition that appears when a delay in uterine involution occurs and is the most common cause of hemorrhagic vaginal discharge after parturition [1]. Physiological vaginal discharge after delivery/C-section lasts for approximately three weeks, although uterine involution is not completed until 12-15 weeks after parturition (Orfanou et al., 2009). When the haemorrhagic vaginal discharge is prolonged beyond these three weeks, it is indicative of SIPS.

The pathogenesis of SIPS is not well understood. However, a study performed by Johnston [2] brought to light that in bitches with SIPS, trophoblastic cells do not degenerate after parturition so they continue invading the endometrium. This trophoblastic invasion apparently favours the appearance of SIPS.

Diagnosis is mainly based on the anamnesis and the clinical signs. However, other diagnostic tools such a vaginal smear, abdominal ultrasound and uterine biopsy have been considered. Regarding to vaginal smear, trophoblastic-like cells can be observed [3]. However, its absence does not rule out the presence of SIPS. On the other hand, Orfanou et al. [4] stated that the presence of trophoblast-like cells in a vaginal smear up to 84 days after parturition can be considered normal. Thus, vaginal smear probably is not the best diagnostic tool for SIPS. Abdominal ultrasound may show an enlarged fluid-filled uterus with a more or less heterogeneous content and enlarged implantation sites. However, ultrasonography does not always provide a conclusive diagnosis. A conclusive diagnosis can be only obtained by biopsy and further histopathology of the affected uterus.

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Case report

A 3-years-old bitch was referred to the Fundació Hospital Clínic Veterinari of the Autonomous University of Barcelona because of a history of intense vaginal bleeding for 5 weeks after performing a C-section because of an 11-puppies dystocia. Two weeks after the surgery, the vaginal discharge decreased, but it increased again one week later. The physical examination of the patient was completely normal with the exception of temperature, which was 39.7°C, and profuse vaginal bleeding. A complete blood count was also performed and all the parameters were normal with the exception of a slight anaemia.

B mode ultrasound examination of the abdominal cavity was performed with an 11-13 MHz high-frequency linear transducer (Mylab 70, ESAOTE, Genova, Italy). Uterus was distended and fluid-filled with heterogeneous hypochoic content. Uterine wall was engorged and the presence of trabeculae was observed after evaluating the ultrasound findings, an ovariohysterectomy (OHE) was recommended.

The bitch was pre-medicated with intramuscular (IM) methadone (0.4 mg/kg, Semfortan®, Esteve Laboratorios, Martorelles, Spain) and acepromazine (0.02 mg/kg, Equipromacina, Fatro Ibérica, Sant Just Desvern, Spain). Induction was performed with an intravenous (IV) combination of propofol (4 mg/kg, Propofol lipurol %, Braun Medical S.A., Rubí, Spain) and diazepam (0.5 mg/kg, Valium 10 Ampollas; Roche Farma S.A., Madrid, Spain). Anaesthesia was maintained with 1.5-% isoflurane (IsoFlo; Abbott Laboratories, Madrid, Spain) in 100% oxygen through a semi-closed circular anaesthesia system.

Ovariohysterectomy was performed by mid-line laparotomy. Excised uterus was examined and it looked swollen and fluid-

filled. The longitudinal section of the horns showed the presence of a high amount of blood as well as clots. After cleaning the endometrium with gauzes, 11 very enlarged placental sites were evident

A biopsy sample from these placental sites was obtained and sent to the histology laboratory. Endometrial epithelium showed papillary and tubular projections into the uterine lumen. These projections penetrated into the lamina propria and the muscular layers. In the apical zone, the projections showed the presence of fibrin, erythrocytes and degenerated inflammatory cells. Endometrial lamina propria was oedematous and with small haemorrhagic areas and infiltrates, mainly lymphoplasmacytic. Lymphatic vessels were distended and both endometrium and myometrium showed diffuse congestion. Histology showed endometrial glands invaded by trophoblastic cells.

Discussion

The present clinical report refers the case of a bitch that presented a marked haemorrhagic vaginal discharge 5 weeks after performing a C-section. In addition to SIPS, diagnostic list for post-partum haemorrhagic vaginal discharge must include endometritis, neoplasia of the genital tract, coagulopathy, brucellosis and inflammation of the caudal reproductive tract [3].

According to the history, the clinical signs and the ultrasound findings, the most feasible diagnostic was a SIPS. As it has been stated before, SIPS is a condition that most of the times is characterized by no other clinical sign but the presence of a slight haemorrhagic vaginal discharge [5] and no treatment is usually required. However, in the present clinical report, since the ultrasound aspect of the uterine lumen was so aberrant and

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the haemorrhagic discharge was so abundant, OHE was considered as the most appropriate approach. Once the uterus was dissected, it could be observed that every single placental site was still intact, with no sign of involution. This can perfectly justify the presence of such an abundant haemorrhagic discharge.

References

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