

REMAINING UTERINE MESONEPHRIC DUCT CYST IN FEMALE DOG (*CANIS FAMILIARIS*) – FIRST CASE REPORT IN BRAZIL

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ABSTRACT

The aim of work was to describe a remaining uterine mesonephric duct cyst in female Pinscher dog, with 8 years old. The main complaint of the owner was no heat at least 18 months. Clinical examination revealed presence of cysts in all teats, confirmed by cytopathologic exam. Haemogram, serum biochemical exams, urinalysis, radiographs of the thorax and abdominal ultrasound were performed and no changes were observed. During the ovaryhysterectomy was observed endometrial hyperplasia and the histopathologic diagnosis was remaining uterine mesonephric duct cyst associated with discrete endometrial hyperplasia. Was concluded that adequate histopathological identification of the uterine mesonephric duct cyst is crucial so do not mistake with neoplasia.

Keywords: urogenital abnormalities, Muller duct, Wolffian duct, cyst, small animals.

CISTO DE DUCTO MESONÉFRICO UTERINO REMANESCENTE EM CADELA (*CANIS FAMILIARIS*) - PRIMEIRO RELATO DE CASO NO BRASIL

RESUMO

O objetivo do trabalho foi descrever um caso de cisto de ducto mesonéfrico remanescente uterino em cadela da raça Pinscher, 8 anos de idade. A principal queixa do proprietário foi ausência de cio com duração de 18 meses. No exame físico evidenciou-se presença de cistos em todos os tetos, confirmado pelo exame citopatológico. Foi realizado hemograma, exames de bioquímica sérica, urinálise, exame radiográfico do tórax e ultrassom abdominal, e não foram observadas alterações. Durante o procedimento de ovário-histerectomia, foi observada hiperplasia endometrial e o diagnóstico histopatológico foi de cisto de ducto mesonéfrico remanescente uterino associado à hiperplasia endometrial discreta. Concluiu-se que a identificação histopatológica adequada do cisto de ducto mesonéfrico uterino é crucial para que o mesmo não seja confundido com neoplasia.

Palavras-chave: anormalidade urogenital, ducto de Muller, ducto de Wolffian, cisto, pequenos animais.

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QUISTE REMANECIENTE DEL DUCTO MESONÉFRICO UTERINO EN PERRA (*CANIS FAMILIARIS*) – PRIMERO RELATO DEL CASO EN BRASIL

RESUMEN

El objetivo del trabajo fue describir un caso de quiste remaneciente del ducto mesonéfrico uterino en perra de raza Pinscher, 8 años de edad. La principal queja del propietario fue ausencia del cio con duración de 18 meses. El examen físico reveló una presencia de quistes en los techos, confirmado por examen citopatológico. Se realizaron hemograma, pruebas bioquímicas sérica, análisis de orina, radiografías de tórax y ecografía abdominal, y no se observaron cambios. Durante ovario histerectomía se observó hiperplasia endometrial y el diagnóstico histopatológico se fue quiste remaneciente del ducto mesonéfrico uterina asociado a la hiperplasia endometrial discreta. Se concluyó que la identificación histopatológico adecuada del ducto mesonéfrico uterina es crucial para que no se confunda con neoplasia.

Palabras clave: anomalías urogenitales, ducto de Muller, ducto de Wolffian, quiste, animales pequeños.

Urinary and genital systems derived from the mesoderm in early of fetal stage in birds and mammals (1). The embryological similarities between the both systems include: pronephric duct appears and disappears at late stages of fetal life, and do not functional in most species; mesonephric duct is functional for short time in the early stages of fetal life, and can develop into permanent organs after fetal life; paramesonephric duct in males - Mullerian duct, and mesonephric duct in females - Wolffian duct, regress and only some portions of them can be seen in organs (2).

During conversion process of urogenital system in primary postnatal functional system, some organs and/or ducts are degenerate and consequently reabsorbed (2). However, they can be completely reabsorbed before or immediately after birth or may remain as vestigial form (2,3). This forms can be replaced by a cystic structure along the urogenital system or retroperitoneal region and/or pelvic cavity (1,3,4).

Remaining uterine mesonephric duct cyst (RUMDC) and secondary manifestations in dogs are lack in literature. Default documented reports over RUMDC in dogs can lead to incorrect diagnosis due to its histopathological similarity to other conditions, as neoplasia. The present work aims to describe the first documented case report about remaining uterine mesonephric duct cyst and secondary manifestations in female Pinscher dog, with 8 years old.

A female Pinscher dog, with 8-year-old, 3 kg, non spayed, was presented to the private practice, São Paulo, Brazil for a check-up. The dog never had puppies and owner reported no heat at last 18 months. No other physiological alterations were reported. Vaccination and deworming were updated. During clinical examination, cysts were observed in teats of both mammary chain (Figure 1) and without vaginal discharge.

The haemogram, serum biochemistry and urinalysis were normal. The abdominal ultrasound and thorax X ray did not showed any alteration. Thus, the teats were submitted to fine needle aspiration cytology. Cytopathologic examination revealed active macrophages, rare neutrophilus and mesenchymal cells, and homogeneous blue material. Cytological evidence of malignancy was not observed. The cytological findings were consistent with cystic lesion without evidence of malignancy.

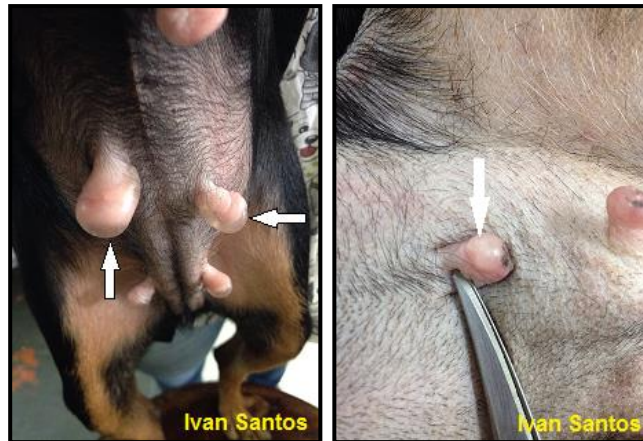


Figure 1. Female Pinscher dog, 8-year-old, showing cysts in teats of both mammary chain (white arrows) (Ivan Santos).

Therefore, was performed an ovariectomy and identified endometrial hyperplasia and slight presence of purulent material on the right uterine horn. Ovaries and uterus were submitted to histopathological examination with hematoxyline-eosine (HE). Uterus histopathological examination showed endometrial with prismatic and cuboid cells, with acidophilic and eventually vacuolated cytoplasm. Endometrial glands identified tubules with acidophilic material and sometimes dilated and formed small cysts. Cysts were observed in the uterus, delineated by layers of smooth muscle and cuboid cells (Figure 2). There were no alterations regarding the ovaries.

The histopathological findings were consistent with remaining uterine mesonephric duct cyst associated with slight endometrial hyperplasia. Was prescribed enrofloxacin (1 mg/kg PO, SID, 10 days) and carprofen (2.2 mg/kg PO, BID, 5 days). Twenty-four hours after surgery, cystic of teats disappeared and skin sutures were removed 7 days after. Clinical examination, haemogram, serum biochemistry, urinalysis, abdominal ultrasound and thorax X-ray were performed at two different moments after surgery, 10 days and 6 months, respectively, and no changes were observed in any of moments.

The present case reported the remaining uterine mesonephric duct cyst in female dog. Apparently, there are no data in the literature about the RUMDC in dogs and can be the first case documented in Brazil. Several urogenital disorders associated with paramesonephric and mesonephric ducts have been described in humans and other mammals by several authors (1-3,5), but none in dog uterus. Disorders associated with mesonephric duct are commonly diagnosed as neoplasia and may thus had contributed to poor documentation regarding this condition in dogs (4,6-9). On the other hand, the RUMDC is diagnosed accidentally during histopathological examination (6), and may also contribute to lack reports.

In the canine female is common to diagnostic the Gartner ducts or cysts that is originating from mesonephric duct remnants which can affect in fertility and health (10). Are more frequently referred to in bitches and can be persist close to the myometrium and the uterine horns (11,12).

The diagnostic of RUMDC was by histopathological examination, similar with literature (4,6,7). Ovarian cysts in cattle, pigs and rodents, often secrete high quantity of estrogens, which can cause irregular estrous cycles, persistent estrus and infertility (8,9,13).

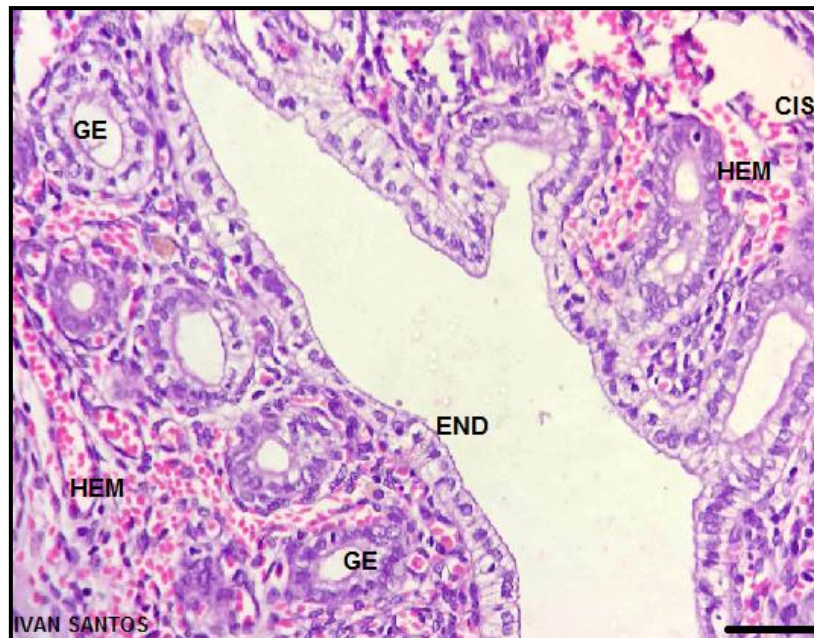


Figure 2. Photomicrography of female Pinscher dog, 8-year-old, diagnosed with remaining uterine mesonephric duct cyst. END – Endometrium with prismatic and cuboid cells, with acidophilic and eventually vacuolated cytoplasm. GE – Endometrial glands. CIS – Cyst with acidophilic material delineated by layers of smooth muscle and cuboid cells. HEM – Hemorrhage. (HE. 40x) [Bar:100 µm] (Ivan Santos).

According to Bartel et al. (10), cases of Gartner cysts originating from mesonephric duct remnant the ectopic endometrium was characterized by immunohistochemistry (oestrogen and progesterone receptors, proliferation activity, cytokeratin, alpha smooth muscle actin, and vimentin) and lectin histochemistry. In this cases, can be observed hypertrophic cells at the serosal (positive reactions to anti-oestrogen receptor and anti-cytokeratin immunohistochemistry) site of the uteri and in all mesonephric remnants, surface and glandular epithelial cells of the ectopic endometrium gave positive immunoreactions for cytokeratin, oestrogen and progesterone receptors (10). On the other hand, muscle actin and vimentin positive can be identified on the stromal cells of the ectopic endometrial (10).

The immunohistochemical characterization of canine mesonephric remnants is slight accessible in Veterinary Medicine, especially in private laboratories, for different reasons, including absence of reagents and pricey. Since histopathological changes were observed in both ovaries, it was supposed that cystic structures located in teats and irregular estrus were secondary manifestations to RUMDC, because the cystic lesions disappeared after ovariectomy. The mesonephric remnants of the mesosalpinx is characterized as a simple tubular structures lined by low columnar to cuboidal cells sometimes featuring cilia with proteinaceous fluid lumina (13).

The correct diagnosis of RUMDC is crucial because can be confused with neoplasia or another similar condition. Cysts on teats and irregular estrus were associated with RUMDC, and ovariectomy is an option to treat this condition in dogs.

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