MULTIPLE LEIOMYOMA OF GENITALIA WITH CONCURRENT PYOMETRA IN A FEMALE SPITZ

C.S. Meghashree1, B. Bibin Becha2, G. Sudha3, G. Malasri4 and C.N. Darshan1
1M.V.Sc. Student, 2Ph.D. Scholar, 3Associate Professor; Department of Veterinary Gynaecology & Obstetrics; Veterinary College, KVAFSU, Hebbal, Bengaluru – 560 024.
[Received: 16.11.2016; Accepted: 23.5.2017]

A 12-year-old pleuriporous intact female Spitz was presented with the complaint of perineal swelling and a protruding mass from the vulva. The pet had the history of lethargy, anorexia, vomiting, polydipsia and occasional blood mixed vaginal discharge for the past one week. Per-vaginal examination revealed round, smooth, firm, multiple intraluminal masses of varying sizes. Abdominal palpation revealed the presence of hard round masses in the caudal abdomen. Transabdominal ultrasonography revealed several masses with cystic areas and enlarged uterus with hypoechoic to anechoic sacculations in front of the urinary bladder. Hematology revealed severe leukocytosis. Conservative surgical excision of 35 tumour masses (33 vaginal, one cervical and one uterine tumour) of varying sizes after episiotomy and ovariohysterectomy was performed. Animal recovered uneventfully. Histopathology of masses revealed genital leiomyoma.

Neoplasms of the female tubular genitalia account for about 3 per cent of all canine tumours; of which 85 to 90 per cent occurs in the vagina and vulva. Uterine tumours are rare in dogs, constituting only 0.3 to 0.4 per cent of canine reproductive tract tumours (Brodey and Rozzel, 1967). Most of these tumours are predominantly benign, arise from smooth muscle and incidence is greater in older non-neutered female dogs (Klein, 2006). These neoplasms are referred to as leiomyomas, fibroleiomyomas, fibromas and polyps, and they vary only in the amount of connective tissue present (MacLachlan and Kennedy, 2002).

Leiomyomas are the most common benign smooth muscle neoplasms of the canine female reproductive tract and accounting for 85–90 per cent of all canine uterine tumours. They are generally non-invasive, non-metastatic, slow growing and may arise from leiomyocytes of the uterus, vagina or vestibule (Herron, 1983). Concurrent diseases reported in dogs associated with leiomyomas include ovarian follicular cysts or oestrogen-secreting tumours, endometrial hyperplasia, mammary hyperplasia, and mammary neoplasia (Klein, 2006).

The present report describes the successful surgical management of multiple leiomyoma of uterus, cervix and vagina with concurrent pyometra in an old female Spitz.

Case History and Clinical Findings

A 12-year-old pleuriporous intact female Spitz was presented with the complaint of perineal swelling and a protruding mass from the vulva. The pet had the history of lethargy, anorexia, vomiting, polydipsia and occasional blood mixed vaginal discharge for the past one week. The animal had exhibited signs of oestrus one month back and mated with a stray dog.

On physical examination the dog was dull with pale visible mucous membrane and general clinical examination revealed normal heart rate, respiratory rate and rectal temperature. Per-vaginal examination revealed round, smooth, firm, multiple intraluminal masses of varying sizes. Deep abdominal palpation revealed the presence of hard round masses in the caudal abdomen. Transabdominal ultrasonography revealed several masses with cystic areas and enlarged uterus with hypoechoic to anechoic sacculations in front of the urinary bladder. Haematology showed reduced hemoglobin levels (6.2g/dl), severe leucocytosis (38,000/cm³) and normal platelet counts (3.01 × 10⁵/cm³). Serum biochemical findings were within normal limits, which included serum creatinine-1.1mg/dL, SGPT-25 IU/L and BUN-12 mg/dl. Based on the results of clinical examination and diagnostic procedures, the case was diagnosed as leiomyoma of reproductive tract with concurrent closed cervix pyometra. It was
decided to perform conservative surgical excision of tumour masses combined with ovariohysterectomy.

Treatment and Discussion

After a routine pre-operative fasting, the animal was premedicated with atropine sulphate (0.045 mg/kg b.wt. S/C) and after five minutes, general anaesthesia was induced with diazepam (0.5 mg/kg b.wt.) and propofol (5 mg/kg b.wt.) “to effect” intravenously. The anaesthesia was maintained with intermittent I/V doses of propofol (10 mg/ml) for required duration. After anaesthesia and preparation of the surgical site, the dog was positioned in a perineal stand with the tail flexed cranially over the spine. An episiotomy was performed at the dorsal commissure of the vulva after placing a size ten french Foley catheter in the urethra to avoid trauma to this structure. Through episiotomy 35 intraluminal masses were removed and the excision site was apposed using No. 2-0 chromic catgut in a continuous pattern. The episiotomy site was closed as per standard surgical procedure.

The dog was positioned on dorsal recumbency and a caudal midventral coeliotomy was performed. On exteriorizing the uterus, two well-delineated, lemon sized intramural masses were identified at the level of cervix and one mass in the uterine horn. Both the ovaries were cystic due to many thin walled ovarian cysts of 1–14 mm diameter with translucent fluid. Ovariohysterectomy was performed under standard surgical technique and on opening, uterine horns were filled with blood mixed exudates. Linea alba and peritoneum was sutured using No.1 PGA in a continuous lock pattern. The subcutaneous tissue was sutured in a simple continuous pattern using No.1-0 PGA and the skin incision was closed using No.1–0 nylon in a cross mattress pattern. Portions of the uterine, cervical and vaginal masses were fixed in 10% neutral buffered formalin and processed for histopathology. Post operatively, the dog was treated with Cefazolin @ 25 mg/kg body weight and Tramadol @ 2 mg/kg body weight I/V. Oral antibiotic therapy for next five days and alternate day wound dressing was advised. Sutures were removed on the 10th post operative day. The pet had an uneventful recovery without any complications. Grossly, the neoplasms were roughly oval, firm, cream coloured, with smooth surface and were surrounded by a thin capsule. Total 35 tumour masses of variable sizes were removed from vagina, cervix and uterus, out of these 5 masses were measuring about 7×6×5 cm, 6 masses were 5×5×4 cm, 7 masses were 4×3×2 cm, 8 masses were 3×2×1 cm and 9 masses were 1×1×1 cm in size (Fig.1). The cut surface of the tumour mass was greyish-white in colour, appeared whorled and had a firm texture. Histopathological examination revealed severe smooth muscle tissue proliferation. Bundles of intertwining smooth muscle cells, frequently interspaced with collagen fibres suggestive of leiomyoma were seen (Fig.2 and 3).

Fig. 1. Leiomyoma masses (35 Nos.) removed from vagina and uterus with internal genitalia
The tumours of tubular genitalia were mostly benign and accounts for around 2 to 3 per cent of neoplasms in dogs. Extraluminal and intraluminal forms of leiomyoma have been described. The extraluminal form manifests as a slow-growing perineal mass whereas intraluminal tumours can be multiple, suggesting a hormonal influence. Uterine tumours are not common in dogs but often found in dogs over 10 years of age as also reported by Ringler et al. (1997) and contrary to this Baldwin (1992) reported that 85 to 95 per cent uterine tumours were benign (leiomyoma) and 10 per cent were malignant (leiomyosarcomas).

Uterine leiomyoma may obstruct the cervix and cause pyometra and enlarging tumour may impinge on the gastro intestinal tract or urinary tract leading to constipation and pollakuria as also mentioned by White (1991). Vaginal leiomyomas can cause obstructive dystocia in bitches as also recorded by Prashanth et al. (2015). In the present case, multiple tumours were located in the vagina and an intraluminal mass was protruded from the vulva. Vaginal leiomyomas are best treated surgically but the condition can recur due to hormonal influence as also reported by Klein (2006). Therefore, ovariohysterectomy is advised at an early age to prevent occurrence of leiomyomas in female dogs. Ovariohysterectomy is curative for most of uterine tumours, without the evidence of metastasis but it is not so with metastatic lesion as also mentioned by White (1991).

Cystic endometrial hyperplasia-pyometra is an acute or chronic disease during diestrus in dogs. Progesterone increases endometrial gland secretory activity, increases endometrial proliferation, decreases myometrial contractility and causes closure of the cervix. These effects are cumulative after repeated estrous cycles, explaining the increased incidence in middle-aged to older bitches. Ovariohysterectomy is the best treatment of choice for CEH-pyometra in dogs.

In the present case, excision of canine genital tumours through episiotomy combined with ovariohysterectomy was performed as surgical correction of leiomyoma and pyometra.

References

