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Vaginal fibrosarcoma in bitch: a case report

E.R. AL-Kenanny[1], O.H. AL-Hyani[2] and M.Th. AL-Annaz[2]

[1] Depatment of Pathology and Poultry Diseases, [2] Department of Surgery and Theriogenology, College of Veterinary Medicine, University of Mosul, Mosul, Iraq, E. mail: er_alkennany@yahoo.com

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Abstract

A nine year–old wolf bitch was admitted to the surgical section of veterinary clinic teaching hospital in Mosul with abnormal mass occupying relatively the vulvar opening. According to the case history of owner, the bitch was suffered from varying degree of difficulty during parturition due to presence of this mass that showed during and after parturition. Appetite and all body health condition were normal. Clinical examination revealed presence of mass like tumor attached to the vaginal wall with numerous nodules or small growths originated also from wall of vulva near to large mass. The large growth was protruded completely through the vagina without any vaginal prolapse. After general anesthesia with ketamine and xylazine, the mass was surgically removed. Histopathological sections were revealed presence of fibrosarcoma which represented by arrangement of cells that have features of malignancy like darkly staining nuclei (hyperchromasia). The mass was diagnosed as a well-differentiated fibrosarcoma.

Keywords: Vagina, Fibrosarcoma, Bitch.
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الغرن الليفي المهبلي في أنثى كلب: تقرير حالة

انتصار رحيم الكناني[1]، اسامة حازم الحياني[2] و مي ذنون العناز[2]

[1] فرع الامراض وامراض الدواجن، [2] فرع الجراحة وعلم تناسل الحيوان، كلية الطب البيطري، جامعة الموصل، الموصل، العراق

الخلاصة

انثى كلب من نوع (wolf dog) عمرها تسع سنوات جلبت الى فرع الجراحة في المستشفى التعليمي البيطري التابع لكلية الطب البيطري/جامعة الموصل كانت تعاني من وجود كتلة ورمية عند فتحة الفرج. ووفقا لتاريخ الحالة المرضية التي اخذت من صاحب الحيوان فإن أنثى الكلب عانت من عسر ولادة بسبب وجود هذه الكتلة التي شاهدها اثناء وبعد الولادة. عند اجراء الفحص السريري للحالة لوحظ وجود كتلة كبيرة من النمو الغير طبيعي لها مواصفات الورم تمتلك عنق ومتصلة بجدار المهبل من الداخل مع وجود كتل اخرى متعددة حول الكتلة الاولى وبأحجام مختلفة لكنها اصغر حجما. تم تخدير الحيوان تخديرا عاما بحقنها بعقاري الكيتامين والزايلازين بعدها تم استئصال الكتلة جراحيا. أظهرت المقاطع النسيجية وجود الغرن الليفي تمثل بإصطفاف الخلايا التي تمتلك مواصفات الورم الخبيث مثل النواة المفرطة الصبغة (فرط التصبغ). شخص الورم على أنه غرن ليفي واضح المعالم.

Introduction

Tumors of female genital system in bitch occur most frequently in the vagina and vulva and rarely in the uterus or ovary. Vaginal and vulval tumors are usually benign and carry a good prognosis (1). Benign mesenchymal tumors such as leiomyoma, fibroma or fibroleiomyoma are most common in the bitch and may affect uterus, cervix or vagina (2,3). Entire, aged dogs (mean age 10–11 years), particularly nulliparous animals, are at risk of benign mesenchymal tumors, where as lipoma affects a slightly younger (4). There is an association between benign smooth muscle tumors and estrogen production in the dog. Such tumors rarely occur in spayed animals unless they have

received estrogen therapy for some reason. The most common malignant tumor of the vagina and vulva is Leiomyosarcoma although other sarcomas, carcinomas and transmissible venereal tumor have also been reported. Any type of cutaneous tumors, particularly squamous cell carcinoma and mast cell tumor, may also occur at the vulval labia (1). Fibrosarcomas are less frequently recognized in the vagina and valve of bitch (5). Extraluminal tumors present as slow growing perineal masses whereas intraluminal forms may present as slow growing perineal masses whereas intraluminal forms may present as polyps protruding through the vulval lips especially when the animal strains or is in estrus. These masses may become traumatized and secondarily infected. Other signs may include vulval bleeding or discharge, tenesmus, vulvar licking, haematuria, dysuria or even urinary obstruction. In some cases a vulval mass may be noted. Since most vaginal and vulvar tumors are benign surgical resection combined with ovariohysterectomy carries a good prognosis. Malignant tumors such as adenocarcinoma and squamous cell carcinoma carry a poor prognosis because of local recurrence and metastasis (4).

Clinical findings

The clinical examination revealed present of mass in vagina. Vaginal examination showed no evidence of vaginal prolapse. Tumor like vaginal mass was detected that attached to vaginal wall and large growth was protruded completely through the vagina.

Treatment

A nine year old German shepherd bitch was admitted to the surgical department of veterinary teaching hospital in Mosul University during April 2012 suffering from varying degree of difficulty during parturition. General anesthesia was applied to the bitch. The perivaginal region was prepared for aseptic surgery. The base of mass was identified and three interrupted horizontal mattress sutures were applied using chromic cat gut (No. 0). An artery forceps was applied at the base of mass to provide excellent homeostasis and prevent bleeding and then the mass was resected. The wound was dressed with antibiotic ointment and the bitch was received intramuscular injection of penicillene–streptomycin about 5ml for 5days after operation. The mass was fixed in 10% neutral buffered formalin for the histopathological examination.

Pathological findings

Macroscopically,

Irregular, hard circumscribed mass was attached to the vaginal wall. The large growth was sized about (4.2 × 3.5 × 3 cm). As well as present of numerous other small growths polyp like growths were seen in the area. The mass have necked, hemorrhagic base protruding from the wall of vulva without necrosis (figure 1).

Microscopically

Spindle–shaped tumor cells forming interlacing and intersecting collagen bundles with available number of lymphocytes and esinophiles (figure 2) The neoplastic cells were fibroblast-type cells that showed nuclear and cellular pleomorphism and loss of polarity (figure 3). Also nuclear hyperchromasia, karyomegaly and most nuclei were elongated to from oval shapes and contain one or more nucleoli have been seen (figure 4). The nuclear to cytoplasm ratio (N/C) was increased from 1/24 to 1/3 in normal fibroblast to 1/2 to 2/3 in tumors cells. Mitotic figures relatively uncommon and the mitotic index (total number of mitotic figures in ten high–power (X400 fields) was less than five (6).

Figure 1: show grow mass localized on vulvo-vaginal area of bitch cause occluded of anus.

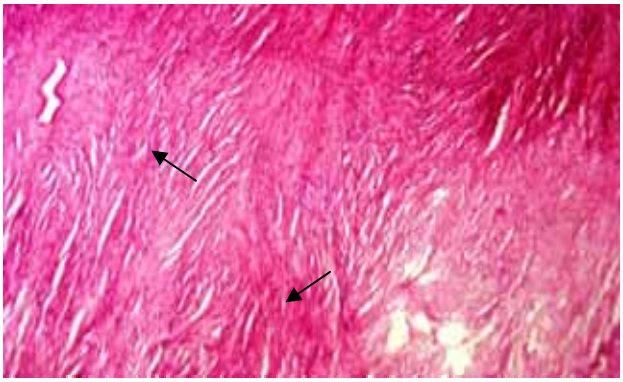

Figure 2: Histological section of vulvo-vaginal fibrosarcoma revealed interlacing and intersecting collagen bundles (arrow) (H&E). 10X.

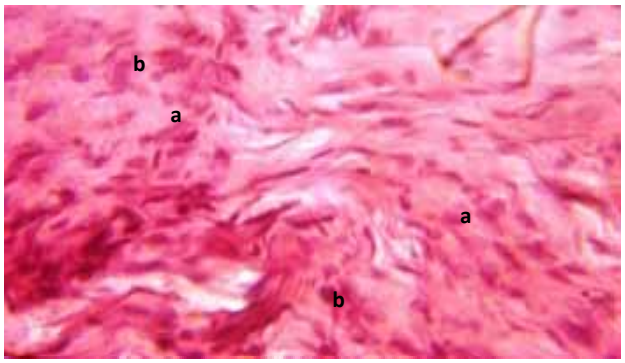

Figure 3: Histological section of vulvo-vaginal fibrosarcoma in bitch showed fibroblast type cells (a) cellular, nuclear pleomorphism (b) (H&E). 40X.

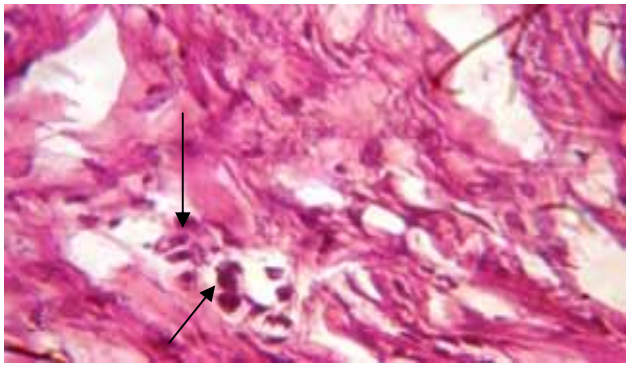

Figure 4: Histological section of vulvo-vaginal fibrosarcoma in bitch showed hyperchromaic nuclei (arrow) (H&E). 40X.

Discussion

The present study is the first report from Iraqi of vulvo-vaginal fibrosarcoma in a bitch while in other countries reported that type of tumors was the second most common canine female reproductive tumor after those of the mammary gland (7). The mass was successfully removed and on clinical examination, there were no signs of debility or other systemic spread of neoplastic condition. Mitotic index of this tumor was less than five (6), this agreed with (8) who observed the mitotic index less than 9 and 5 respectively was associated with greater survival than a mitotic index of >9 and > 5 respectively. Tumors of the vagina and vulva of dog are not uncommon, they are pedunculated and may be removed surgically (9). Fibrosarcomas can be found in any location of the body but they are unusual mesenchymal tumors of bitch vagina (10). In addition they do not cause fertility but may interfere with breeding and parturition and associated with dystocia.The bitch was re-examined and follow up after 6 months and no evidence of any tumor tissue development at the surgical area was seen.

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