



CASE REPORT

Vaginal Fibrosarcoma in an Algerian Crossbreed Cow

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ABSTRACT

A case of vaginal fibrosarcoma in a 4-year-old pregnant (6th month) cow is described on the basis of clinical, macroscopic and microscopic findings. Tumor mass surgically excised from the vagina was nodular and firm, sized 40mm x 60mm. Histopathologically, neoplastic tissue originated from the mucosal connective tissue. Tumor cells showed highly proliferating pattern with cellular and nuclear pleomorphism (anisocytosis and anisokaryosis). In addition, some tissue parts were very well vascularized. Excision of the tumor mass was easy and successful; with neither hemorrhage nor postoperative infection. At the 5th post surgical month, no evidence of regrowth of any tumor tissue was found. This paper reports the first clinical investigation, surgical treatment and pathological description of a vaginal fibrosarcoma in Algeria.

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INTRODUCTION

In the veterinary literature, soft tissue fibrous tumors are divided into few types, and in cattle the majority are diagnosed as fibroma or fibrosarcoma (McEntee and Nielsen 1976; Takai *et al.*, 2004; Michishita *et al.*, 2016; Mohana *et al.*, 2016). Vaginal tumors in cattle have been reported from many countries (Saut *et al.*, 2013; Kuru *et al.*, 2016), however, reports on bovine fibrosarcoma compared with other tumors of cattle are very rare (Yeruham *et al.*, 1999; Musal *et al.*, 2007). Vagina tumors may be associated with dystocia (Arthur, 1996); also, temporal infertility might occur in cases of a very large neoplasm, due to vaginal obstruction and/or inability to successfully breed.

History and clinical evaluation: A 4-year-old cross breed pregnant (6th month) cow was presented for a slight vulvar bleeding. The cow was in good condition and all physiological parameters were within normal limits. There were no signs of vulvar and perineal pathology, with the exception of traces of dried blood in the base of tail. Vaginal examination revealed a well demarcated hard tumor mass; 40 x 60 mm (Fig. 1a).

Tumor mass was surgically removed, the cow was restrained in a standing position; caudal epidural anesthesia was performed, with 8ml of lidocaine 2% (xylocaine, Astra Zeneca) and the perineal area and vulva

were flushed with 10% iodine. Vulvar labia were retracted, and tumor mass was revealed and clamped with mosquito forceps and flushed with iodine. Tumor was excised and the surgical wound sutured with No. 2 plain catgut in simple interrupted pattern. The cow received a 4 day postoperative antibacterial therapy with 40 ml of amoxicillin (1.5g/100kg, Amoxoil, Syva) via intramuscular route. No complications were observed one month later.

For histopathology, the mass was fixed in 10% neutral-buffered formalin and routinely processed. Tissue sections (4 µm) were stained with hematoxylin and eosin (H&E).

RESULTS AND DISCUSSION

Macroscopically, the tumor measured 40mm x 60mm with nodular appearance and the cut section was homogenous white-tan with fibrous tissue dissections apparent coursing through it (Fig. 1 and 2).

Microscopic examination showed that neoplastic tissue originated from the mucosal connective tissue. The neoplastic cells were spindle-shaped fibroblast-type arranged in a herringbone pattern. Tumor cells showed highly proliferating pattern with cellular and nuclear pleomorphism (anisocytosis and anisokaryosis) with prominent one to two nucleoli. The frequency of mitotic figures was slightly low and no areas of necrosis were



Fig. 1: Presentation of the vaginal tumor, clumping and surgical resection.

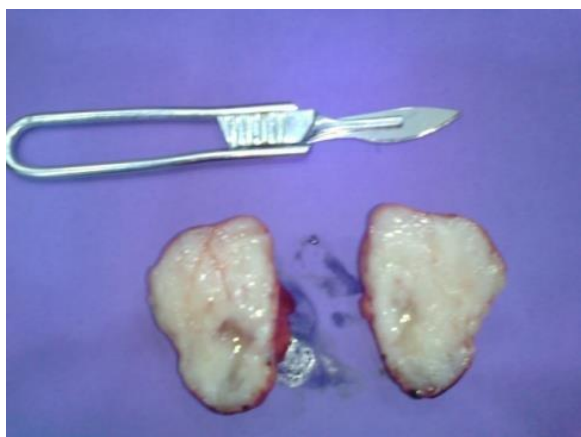


Fig. 2: Macroscopic and cross sectional appearance of removed tumor nodule.

observed (Fig. 3). In addition, some tissue parts showed extensive new vasculature formed (Fig. 4). Based on aforementioned pathological criteria, the tumor was diagnosed as vaginal fibrosarcoma. Meuten (Meuten 2016) reported that the amount of mitotic activity, cellular pleomorphism, atypia, and necrosis are the most important identifying features of malignant tumors.

Excision of the tumor mass was easy and successful with minimal hemorrhage and no evidence of postoperative infection. One month later the cow was in a good general condition and there were no traces of surgery or evidence of tumor recurrence. Likewise, at the further examination following the second-month postpartum, no evidence of regrowth of any tumoral tissue was found. This suggests that a favorable prognosis may be expected following a proper extirpation of pedunculated tumoral masse in cow; avoiding tumor metastasis, as deduced by previous studies (Musal *et al.*, 2007; Hamali and Ashrafihelan 2010; Kuru *et al.*, 2016).

In this paper, we first report a clinical investigation, surgical treatment and pathological description of a vaginal fibrosarcoma in a crossbreed cow. To the best of our knowledge, this is the first report of this pathology in Algeria.

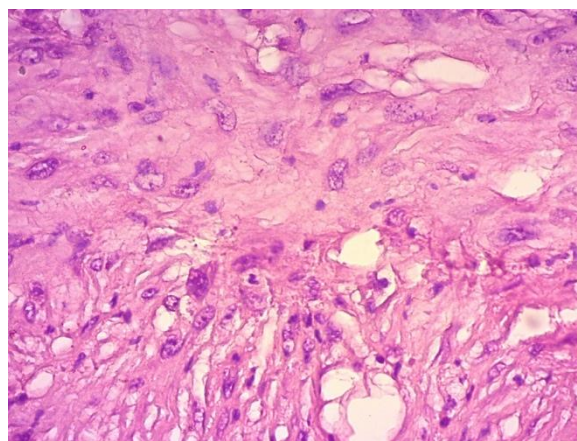


Fig. 3: Neoplastic fibroblasts with prominent anisocytosis and anisokaryosis, mitotic figures and prominent nucleoli. H&E 60X.

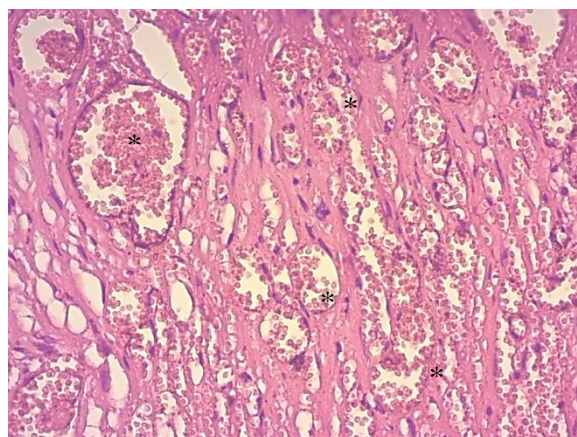


Fig. 4: Highly vascularized lamina propria of vaginal mucosa (asterix). H&E 40X.

Authors contribution: MB, AK, and KAY performed the surgical procedure and clinical follow-up. HH realized gross and histopathological examination of surgical specimen. All authors read and approved the final manuscript.

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