Indian J. Anim. Hlth. (2018), 57(2) : 235-238

Short Communication

UTERINE LEIOMYOMA IN A COW –A CASE REPORT

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A cow was reported with the difficulty in parturition since last 12 to 15 hours. Investigation of the birth canal revealed that the cause of dystocia was obstruction, due to large lump at or near the internal os. After relieving the dystocia, it was found that the lump, may be a neoplastic mass, was confirmed as leiomyoma after histopathology.

Key words: Cow, Dystocia, Leiomyoma, Neoplasia

Leiomyomas are neoplasia of smooth muscle (Hulland, 1990) and most commonly occurring tumors of the female genital system in almost all domestic species (Sharma *et al*., 2012). Leiomyomas are benign tumors and are the most common neoplastic condition of uterus in middle or older age group of dogs (Sontas *et al*., 2008), but is less common in domestic ruminants (Corpa and Martinez, 2010). Tumors that occupy a large area of the uterine wall or occlude the uterine lumen may result infertility or abortion (Purohit *et al*., 2004) and may also cause dystocia most often if it is present near internal os or at posterior portion of uterine body. This report describes the uterine neoplastic condition in a cow causing dystocia at full term gestation.

A full term Hariana cow at her 2nd parity was presented with the history of difficulty in parturition while water bag was ruptured 12 hrs before. The animal was in lateral recumbency and continuously straining. Detailed examination of genitalia revealed that the cervix was completely dilated and a dead fetus was in anterior longitudinal

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presentation with dorso sacral position. Further investigation explored that a large solid lump was engaged at the level of pelvic inlet along with fetus that caused hindrance to the path of fetus way out.

The lump was pressed and held one side in uterus and fetus was then relieved out with forced traction after some obstetrical manipulation and the lumpy mass was also taken out by applying traction (Fig. 1). It was a white, firm solid mass of 5.2 Kg weight. Animal was given fluid therapy (Inj DNS @ 3 lit, inj RL @ 2 Lit. I/V), Anti-histaminic inj Chlorpheniramine maleate (Anistamin; Intas) @ 40 mg I/M, Antibiotic inj ceftriaxone (Intacef; Intas) @ 10 mg/kg body weight I/M and Anti-inflammatory inj Flunixine meglumine (Megludyne; Virbac) @ 2 mg/Kg body weight I/M). The mass was located on the uterine wall and seems to originate from the muscular layer of the same. Histopathology of the uterine mass showed that it was a leiomyoma. Grossly the leiomyoma was typically well-circumscribed, white, firm with rubbery consistency. There was bulging of cut surfaces when incised, secondary to release of intratumoral pressure, which is characteristic for lieomyoma. On microscopic examination it is revealed that smooth muscle cells and connective tissue were the components of the tumorous tissues. Neoplastic cells were composed of interlacing bundles of smooth muscle fibers with acidophilic cytoplasm and elongated, cigar shaped and rounded blunt ending nuclei (Fig. 2). In some areas neoplastic cells revealed whorls and interlocking bundles of connective tissue fibers and cells. The cells were usually fusiform or stellate in shape, possessed large, ovoid to elongated nuclei and sometimes multiple nucleoli. There was little mitotic activity and no clear pleomorphism.

Leiomyoma are usually single, firm, round and may resemble abscesses (Roberts, 1971). Initially, when the tumor is small, it has a fleshy consistency which becomes firm as it develops due to stromal connective tissue (Sharma *et al*., 2012). Leiomyomas are smooth-surfaced, discrete, benign tumors that consist of smooth muscle fibers and collagen and resemble smooth muscle on cut surface (Youngquist and Threlfall, 2007). Little is known about the etiology and pathogenesis of leiomyoma (Sendag *et al*., 2008) but steroid hormones; especially estrogens may play a role in the pathogenesis of leiomyomas (Fiorito, 1992; Miller and McDaniel, 1995) whereas progestogen may have an inhibitory effect (Moghissi, 1991). Most uterine leiomyomas grow slowly and are clinically inapparent (Moghissi, 1991) which may be the reason for undiagnosis of the tumor in present case during gestation. Considerations in the differential diagnosis for neoplastic conditions of the tubular reproductive tract include pregnancy (placentomes or fetus), abscess, adhesions, mummified/macerated fetuses and tuberculosis (Youngquist and Threlfall, 2007). Ultrasonographic guided centesis may prove useful to reach at a tentative diagnosis; however, it could not

Uterine leiomyoma in a cow

Fig. 1. Tumorous mass along with the fetus after relieving the dystocia

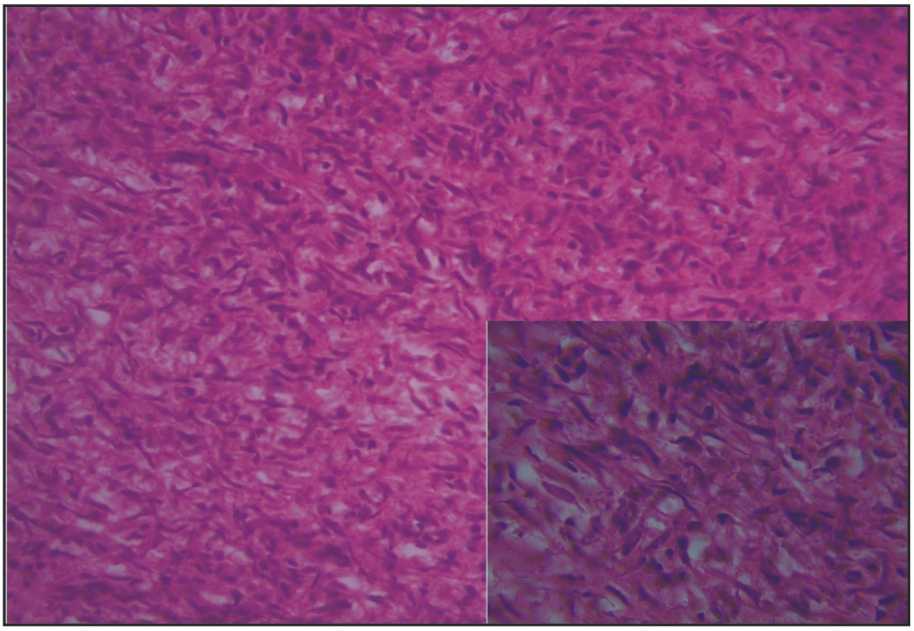

Fig. 2. Elongated cells with acidophilic cytoplasm and oval to cigar shaped nuclei H&E × 400. (Inset; H&E × 1000)

confirm the origin of the tumor (Sharma *et al*., 2012) while surgery, necropsy or slaughter would be needed for a definitive diagnosis (Miller and McDaniel, 1995). The benign tumors of the cervix are only of clinical significance as a space-occupying lesion, they cause mechanical interference (Noakes *et al*., 2009). In present case the tumorous mass was felt near internal os or at posterior portion of uterine body that's why it caused interference in fetal expulsion. These benign tumors affect fertility if they occupy a significant proportion of the uterine lumen (Noakes *et al*., 2009). A case of leiomyoma of the uterus in an infertile cow has been reported by Sharma *et al*. (2012) but Miller and McDaniel (1995) reported a case of uterine leiomyoma in a sow with normal gestation and parturition.

The present case is rare and interesting as neoplastic condition was found in fertile cow and diagnosed at full gestation.

REFERENCES

Corpa JM and Martinez CM, 2010. Uterine leiomyoma in a sheep. Reprod Domest Anim, 45(4): 746-748

Fiorito DA, 1992. Hyperestrogenism in bitches. Compend Cont Educ Pract Vet, 14: 727-729

Hulland TJ, 1990. Tumors of the muscle. In: Tumors of Domestic Animals (Ed J.E. Moulton) Los Angeles University, California Press, pp 75-88

Miller DM and McDaniel HT, 1995. Uterine leiomyoma in a pregnant sow. J Swine Health and Prod, 3(1): 24

Moghissi KS, 1991. Hormonal therapy before surgical treatment for uterine leiomyomas. Surg Gynecol Obstet, 172: 497-502

Noakes DE, Parkinson TJ and England GCW, 2009. Uterine tumours : Infertility and subfertility in the cow. In: Veterinary Reproduction and Obstetrics. 9th edn., New York, USA: W.B. Saunders Ltd, pp 404-405

Purohit GN, Kumar D and Garg N, 2004. Successful removal of fibroma from the uterus of a cow. Acta Vet Hung, 52: 47-50

Roberts SJ, 1971. Tumors of the uterus: Infertility in the cow. In Veterinary Obstetrics and Genital Diseases. 2nd edn., Indian Edition, CBS Publishers New Delhi, pp 488

Sharma A, Kumar A, Imran S, Sood P and Asrani RK, 2012. Ultrasonographic, surgical, and histopathological findings of a uterine leiomyoma in a

cow. Case reports in Veterinary Medicine, 2012: 1-4

Sontas H, Ozyogurtcu H, Turna O, Arun S and Ekici H, 2008. Uterine leiomyoma in a spayed poodle bitch: A case report. Reprod Domest Anim, 45(3): 550-554

Sendag S, Cetina Y, Alana M, Ilhana F and Eskia F *et al*., 2008. Cervical leiomyoma in a dairy cattle. Anim Reprod Sci, 103: 355-350

Youngquist RS and Threlfall WR, 2007. Neoplasia: Infertility due to noninflammatory abnormalities of the tubular reproductive tract. In: Current Therapy in Large Animal Theriogenology, 2nd edn., Saunders, USA, pp 386

Article received on 03.08.2018 and accepted for publication on 28.09.2018