

Surgical management of acquired prepubic hernia in ovines of Kashmir

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The prepubic hernia due to rupture of prepubic tendon (prepubicdesmorrehexis) is seen most commonly during pregnancy in the mare (Mirza *et al.* 1997) and is rare in ruminants especially in sheep (Singh and Singh 1993). The rupture of prepubic tendon in ruminants is associated with increased weight of the gravid uterus, twins, hydrops of the fetal membranes, fetal giants and trauma (Purohit 2012). The symptoms include peculiar downward enlargement of the abdomen with the left side of the abdomen being more pendulous than the right and forward displacement of the mammary gland which causes hindrance to locomotion of the animal (Shaw *et al.* 2003). This affects the gait as animal walks cautiously and refuses to lie down (Singh and Singh 1993). Since rupture of the prepubic tendon is transverse, the gravid uterus drops downward into a sac formed by the skin and cutaneous muscles (Purohit 2012), rupture of prepubic tendon makes parturition more difficult than normal (Smeak 1998). Diagnosis of this condition is based on a clinical examination in conjunction with abdominal radiography and abdominal ultrasonography (Beittenmiller *et al.* 2009). The present paper describes the successful surgical management of acquired prepubic hernia due to prepubic tendon rupture in 6 sheep.

The present study was carried out on 6 adult ovines of both the sexes (4 pregnant ewes and 2 uncastrated rams) aged 2.5 ± 0.89 years and weighing 29.5 ± 1.8 kg, presented to Veterinary Clinical Services Complex of the Kashmir with the complaint of caudal abdominal swelling following trauma 6–10 days back in 4 sheep (2 ewes and 2 rams) whereas in other 2 ewes, swelling had appeared suddenly without any history of trauma (Fig. 1). The swelling on left side of the midline was more pendulous and large than on right side which was causing difficulty in the ambulation. All the animals were reluctant to lie down. The clinical evaluation included the digital palpation of abdomen and determination of heart rate, respiratory rate, rectal temperature ($^{\circ}\text{F}$), ruminal motility, dehydration status observed by skin tent test at the neck and colour of



Fig. 1. A pregnant ewe showing prepubic hernia following trauma.

conjunctival mucous membrane and capillary refill time. The data recorded, wherever applicable, was statistically analyzed using simple one way analysis of variance (ANOVA test). Significance was set at $P < 0.05$. Based on the history, digital palpation of abdomen and clinical examination the diagnosis of prepubic hernia was made in all the cases. After considering the gravity of situation, emergency surgical intervention was planned in all the six sheep. Therefore, emergency surgical intervention was planned.

Surgical technique: In all the sheep, ceftriaxone @ 10mg/kg, intramuscularly (IM) and meloxicam @ 0.5mg/kg intravenously (IV) were administered 30 min prior to premedication. Sheep were administered with diazepam

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hydrochloride slowly @ 0.5 mg/kg body weight intravenously and IV fluid line (5% DNS) @ 20 ml/kg over the 30 min to maintain the arterial blood pressure. The animals were prepared for aseptic surgery after proper shaving and thorough scrubbing of the ventral abdomen. The animals were anaesthetized by lumbosacral epidural anaesthesia using 2% lignocaine hydrochloride @ 4.6 mg/kg body weight. The animals were positioned in dorsal recumbancy on the surgical table. Surgical repair was undertaken through a ventral midline incision made from the umbilicus to the pubis on the middle of the hernia and extended through skin and subcutaneous tissues in all the cases. In pregnant ewes through the same skin incision, the uterus was exteriorised and 4 inch long incision was made on uterus for removal of fetus. Three single live monster fetuses, 2 male and 1 female were recovered from 3 pregnant ewes; whereas in fourth pregnant ewe, 2 dead fetuses, 1 male and 1 female were removed. As none of the animals had complete avulsion of tendons from prepubic bone, therefore, ruptured tendons were apposed with ruptured abdominal muscles by a non absorbable suture material proline-No. 2 size using horizontal mattress suture. Excess skin of the sac was removed and then closed using braided silk No.1 in a horizontal mattress pattern. The skin sutures were removed on 12th post-operative day.

The mean±SD weight of the fetuses was 3.98±0.67 kg. However, 3 monster fetuses, mean±SD weight was 5.10±0.37 kg. Excessive weight of foetal monsters along with weight of accumulated foetal fluids, may lead to rupture of the prepubic tendon in ewes prior to lambing. Although of rare occurrence in ruminant obstetrics, rupture of prepubic tendon have been reported in the cows and sheep (Singh and Singh 1993). Ventral abdominal hernia in animals due to rupture of the prepubic tendon can be diagnosed thorough physical examination in conjunction with abdominal radiography and abdominal ultrasonography (Beittenmiller *et al.* 2009). However, in present study, the diagnosis of prepubic tendon rupture were made on the basis of history, digital abdomen palpation and clinical examination.

Pregnant animals with a prepubic tendon rupture require caesarean section to save the life of foetuses as the delay in surgery increases complications (Aleem *et al.* 2010). All the animals recovered uneventfully and were normal up to the last examination 3 months later.

Rupture of prepubic tendon is an emergency condition caused mainly by trauma which requires prompt surgical intervention to save the life of animal. Immediate caesarean

section is indicated in pregnant animals to prevent further complications.

SUMMARY

The present paper describes the surgical management of acquired prepubic hernia due to prepubic tendon rupture in 6 ovines of both sexes (4 pregnant ewes and 2 rams) aged 2.5±0.89 years and weighing 29.5±1.8 kg. The sheep were presented with the complaint of caudal abdominal swelling and reluctance in lying down. The physiological parameters were within normal range. The sheep were operated under diazepam sedation and lumbosacral epidural anaesthesia using 2% lignocaine hydrochloride. Surgical repair was undertaken through a ventral midline incision and simultaneously caesarean section was performed in pregnant cases. All the animals recovered uneventfully.

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