

HERNIOPLASTY FOR CORRECTING CONGENITAL VENTRO – LATERAL ABDOMINAL HERNIA ASSOCIATED WITH AMELIA IN A RAM LAMB

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Abstract: A young ram lamb was presented to college clinics with the history of swelling at right caudo-lateral abdominal region and complete absence of right hind limb congenitally. The swelling was noticed by owner one month before, which, gradually increased in size. Clinical examination revealed non painful, fluctuating and reducible swelling with a large hernial ring measuring about 14 cm in diameter. The defect was corrected by hernioplasty using nylon mesh following aseptic precautions and animal recovered uneventfully.

Keywords: Ram lamb, Ventro-lateral hernia, Amelia, Hernioplasty, Nylon mesh

INTRODUCTION

Ventral abdominal hernia is defined as protrusion of abdominal contents through any part of the abdominal wall other than natural orifice (Krishnamurthy, 1995). It may be congenital which appear mostly at the site of natural orifices such as the umbilical and inguinal canal of immature animals that are associated with their developmental status (Misk *et al.*, 2008). Acquired hernias may result in due to weak muscles of ventral abdomen and also due to any traumato ventral abdomen causing protrusion of abdominal contents beneath skin (Monsang *et al.*, 2014). It was frequently observed in calves, pigs and foals compared to goat and sheep (Vilar *et al.*, 2011). Amelia is the congenital deformity consisted of complete agenesis of the affected fore limb. The present case report describessuccessful management of ventralabdominal hernia by hernioplasty using mosquito net mesh in a ram lamb with congenitalhernia associated withAmelia.

CASE HISTORY AND CLINICAL OBSERVATION

A five month old ram lamb weighing 13 kg was presented to the Department of Veterinary Clinical Complex, NTRCVSc, Gannavaram, Andhra Pradesh, with the history of huge soft swelling at the right ventro-lateral abdominal region (Fig. 1) which was observed at birth that

grew to the present size. Anamnesis also revealed complete absence of right hind limb congenitally. Clinical examination revealed reducible ventro-lateral hernia with fluctuating and non-painful contents. The hernial ring measured about 14 cm in diameter. All the physiological parameters such as rectal temperature, heart rate, respiratory rate, were in normal range. The animal was bright, alert with normal appetite. As the hernia ring diameter was huge, it was decided to correct it by hernioplasty procedure using nylon mesh.

TREATMENT AND DISCUSSION

The ram lamb was fasted for twelve hours for food and eight hours for water. The animal was restrained in left lateral recumbency and the surgical site was prepared aseptically. It was sedated with xylazine hydrochloride @ 0.05 mg/kg BW IV, followed by ring block by using 2% lignocaine hydrochloride.

An elliptical incision was made over the skin and hernial sac and fascia were bluntly dissected. The adhesions were removed by blunt dissection and the hernial contents *i.e* rumen, intestines and omentum (Fig. 2) were repositioned into the abdominal cavity through the hernial ring. Hernioplasty was performed by the use of a nylon mesh and the margins were interposed between the parietal peritoneum and the muscle fascial layer (Fig. 3). The mesh was sutured to the muscle along the circumference of hernial ring using nylon no 0. in horizontal mattress pattern. The subcutaneous tissue was sutured using PGA no. 2 in a simple continuous pattern. The skin was closed with polyamide no.1 in horizontal mattress pattern (Fig. 4) and applied tincture benzoin seal. Post operatively, antibiotic inj. ceftriaxone 500 mg IM was administered for five days and inj. meloxicam @ 0.3 mg/kg BW IM for three days along with alternate day dressing. Skin sutures were removed on 14th day post operatively. Mild complications like seroma formation and initial signs of graft rejections were observed, which could be treated by using cortisones and antibiotics.

Amelia is a congenital deformity consisted of complete agenesis of the affected fore limb; the defect is commonly unilaterally manifested (Samuel *et al.*, 2014). Developmental 'disorder' case reports are comparatively scarce in veterinary literature (Corbera *et al.*, 2002).

Ventro-lateral hernias commonly involve abdominal wall near the midline and the size of the hernial ring varies in diameter and the nature of hernial contents depends on the site of the herniation (Yasin, 2017; Farman *et al.*, 2018). In the present case the margins of hernial ring were formed cranially by the part of flank muscles, caudally by tuber coxae and ventrally by part of linea alba. Grossly, total flank muscles were not developed. The flank and ventro-lateral abdominal region in ruminants lack a continuous muscle covering, it has a rather

narrow fleshy portion with holly tendinous nature and an extensive aponeurosis (Dyce *et al.*, 2002). A variety of different meshes are routinely used for hernia surgery in industrialized countries. Polypropylene is the most commonly used material followed by polyester. Mosquito nets are usually made from cotton, polyester, polyamide, polyethylene or polypropylene and are easily available and cheaper. Use of indigenous mosquito mesh healed without serious clinical complications, closed the defect successfully, and minimal inflammatory reaction around the mesh fibers (Sharma *et al.*, 2015). Once the mesh is implanted into the body, a series of reactions will occur in the host surrounding tissues which include local injury, blood mediated interaction and initiation of inflammatory response, matrix formation, acute inflammation, chronic inflammation, granulation tissue development, foreign body reaction and fibrous capsule development (Anderson, 2001).

The ventro-lateral abdominal hernia in a ram lamb with amelia is a rare condition (Dennis and Leipold, 1968). Hernioplasty could be elite technique followed when the ring is more five finger width and with positive good outcomes. Use of cost effective, economically feasible and easily available mosquito net mesh has proven low complication rate, no recurrence rate and a good safety profile with good healing. So, autoclaved mosquito net mesh is a very cost effective but equally efficacious alternative to polypropylene mesh for use in sheep with large ventro-lateral abdominal hernia.

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Fig. 1: Photograph showing the swelling and absence of right hind leg.

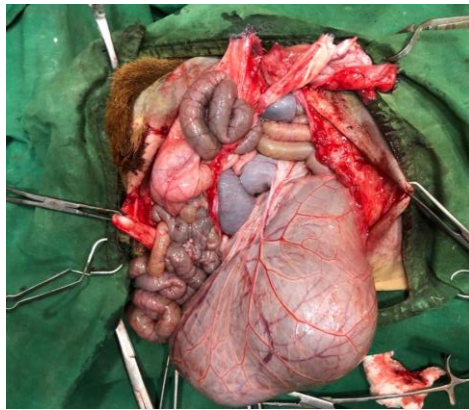


Fig. 2: Photograph showing hernial contents (rumen, intestines and omentum).



Fig. 3: Photograph showing nylon mesh in position.



Fig 4: Photograph showing skin sutures in place.