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Surgical Management of Ventral Abdominal Hernia in a 8 Month Old Calf

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Abstract: ***An 8 month old calf was presented to Veterinary Dispensary, Ramohalli, Bangalore with a history of large external swelling on ventral abdominal region since a week. Clinical examination revealed large soft reducible swelling on right lateral side ventral abdominal region. On the basis of history and clinical examination the case was diagnosed as ventral abdominal hernia. Herinoplasty was performed using Polypropylene mesh. Animal recovered uneventfully.***

Keywords: Calf, ventral abdomen, reducible, hernia, polypropylene

1. Introduction

Hernia is a protrusion of the contents of a body cavity through a weak spot of the body wall. In cattlemost common site of a hernia is the abdominal wall which consists of the muscles and ligaments, which acted as shield and the natural function of it is carrying the abdominal contents mainly the intestines. When any weakness extended in the abdominal wall, the ability of abdominal wall to be intact is lostand forms a hole, which is called as Hernial ring, then the part of the abdominal viscera pass through the hole and appears as a bulge on the abdominal wall, which is visible on the skin as a hernia (Singh*et al.*, 2014). In animals ventral hernia occurs due to any trauma such as a kick, blow, horn thrust or falling on blunt objects and rupture of pre pubic tendon (Frank, 1981). A primary diagnosis was made from the history and by palpation of the hernial region. Ventral abdominal hernia is commonly found acquired condition in ruminants and horses (Venugopalan, 1997). The present study describes a successful management of a ventral hernia in a calf.

2. Case History and Observations

An 8 monthold Jersey cross bred calf was presented to the Veterinary Dispensary, Ramohalli, Bangalore with a history of large external swelling on ventral abdominal region since a week. Clinical examination revealed large soft reducible swelling on right lateral side ventral abdominal region (Fig. 1). On the basis of history and clinical examinationcase was diagnosed as ventral abdominal hernia was decided to correct surgically.

3. Surgical Treatment

The animal was kept off feed for 24 hours and water was withheld for 12 hours prior to the surgery. Animal was prepared for aseptic surgery as per the routine procedure. The animal was premedicated with xylazine hydrochloride @ 0.1 mg/kg body weight intramuscularly followed by local infiltration at the site using 2% lignocaine. Animal was restrained on left lateral recumbency. A sufficient longitudinal incision was given in the middle of the swelling and hernial ring was exposed. The organs herniated were intestine and omentum (Fig. 2). Adhesions were removed by blunt dissection and organs were repositioned. The hernioplastywas performed using a synthetic Polypropylene mesh in double layer with silk suture.The muscles were sutured in simple interruptedsuture pattern using no.2 chromic cat gut followed by skin closure using nylon no.1 by horizontal mattress pattern. Post operatively animal was kept on antibiotic strepto-pencillin @ 1.25gm/day for 7 days and Melonex @10ml/day intramuscularly for a period of 3 days along with regular antiseptic dressing of surgical wound using povidine iodine for 10 days. Suture were removed on 10th day post-operatively. Animal recovered completely (Fig. 3)

4. Discussion

Hernia may accrue by accident or due to normal anatomical opening, which does not completely fulfil its physiological function. So a part of an internal organ bulges through a weakened muscle, tissue, or membrane that would normally contain it. Hernias are caused by a combination of muscle weakness and strain (Sutradhar*et al.*, 2009). Any trauma caused by kick in the camel, horn thrust in cattle or violent contact with blunt objects or automobile accident or an abscess in the abdominal cavity may lead to weakening of the abdominal muscles or by an abdominal distension due to pregnancy or violent straining during parturition may lead to ventral hernia (Krishnamurthy, 1995). Ventral hernia is commonly seen in the ventral abdominal wall near the midline and size of the hernial opening varies in diameter and nature of hernial contents depends on the site of the herniation. There are lots of treatment options for ventral abdominal hernia that depend on the size of the hernial opening. Application of bandage, clamps or ligatures may be helpful in a few cases where the hernia ring is small. Surgical intervention is useful in case of large hernia opening (Abdin-Bey and Ramadan, 2001). Hernias have several deleterious effects, such as lowering the productivity and reproductivity of the affected animals (Das *et al.*, 2012).In large ventral hernias exhibit depletion of muscular and fascial tissues. The muscle of the abdominal wall is atrophic, contracted and deviated from the midline (Kawcak and Stashak 1995). This condition may lead the surgeon to prefer a mesh implant, although it is demanding in terms of surgical skills and time,it is more expensive and may lead to higher complication rated compared with suture repair (Williams *et al.*, 2014). Synthetic materials of high tensile strength have been used to produce meshes for the repair of

abdominal wall defects. The characteristic of these materials make them the best choice for use in large animals with large abdominal defects (Tulleners and Fretz, 1983) Polypropylene mesh is one of the most commonly used prosthetic materialsfor large ventral hernia repair in large animals (Finan*et al.* 2009). Herinoplasty was performed in present case using Polypropylene mesh,recoveredwithout any complications.

5. Conclusion

Appropriate surgical technique and time of presentation ensured an uneventful recovery in the present case without any postoperative complications.

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Author Profile

Dr. Amith N G completed his Bachelor of veterinary Science (B.V.Sc& A. H) from veterinary college, Hassan and master of veterinary science (M.V.Sc) in veterinary surgery and radiology from veterinary college Bangalore, Karnataka veterinary science and fisheries science university (KVAFSU), bidar, India and postgraduate diploma in wild animal disease management (PGDWADM) from madras veterinary college, Chennai. He is presently working as a veterinary surgeon in government of Karnataka and his field of interest is soft tissue surgery, exotic pet & bird's medicine.

Photos

Figure 1: Photograph showing large soft reducible swelling on right lateral side ventral abdominal region.

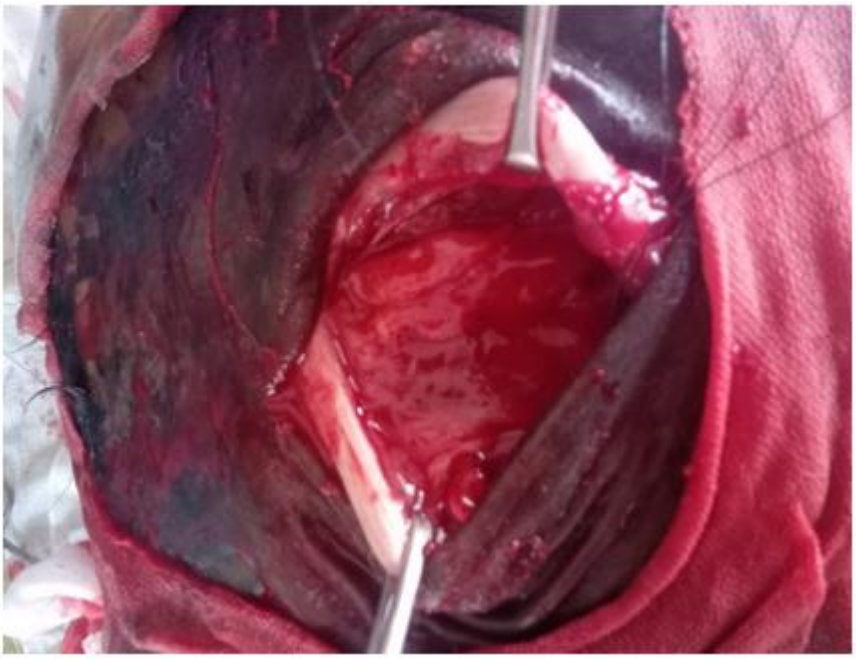

Figure 2: Photo graph showing organs herniated were intestine and omentum.

Figure 3: Photo graph showing completely recovered calf