

## Successful management of ventral abdominal hernia in goat: a case report\*

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### ABSTRACT

The study was conducted a four month old Jamunapari doe weighing 15kg that was brought to the SAQ teaching veterinary Hospital, CVASU, Chittagong with the history of unknown cause, loss of appetite and gradual swelling in the pelvic region since one month. Based on clinical examination the case was subjected as a ventral abdominal hernia and corrected by surgical intervention. The case was recovered unevenfully at 10<sup>th</sup> postoperative day.

**Key words:** Jamunapari, Ventral abdominal Hernia, Pelvic region

### INTRODUCTION

Hernia is defined as the protrusion of an organ or tissue through an opening. The opening is caused by a tear in the abdominal wall or it may be a natural opening like the inguinal canal or femoral canal. There are different types of hernia in small and large animals. A ventral hernia is defined as a hernia through any part of the abdominal wall other than a natural orifice and the hernia is ventral to the stifle skin fold <sup>[1]</sup> or a ventral hernia is caused by the migration of viscera through a tear in the abdominal wall <sup>[2]</sup>. Ventral abdominal hernia is commonly found acquired condition in ruminants and horses <sup>[2]</sup> and also common in dog and pig compare to other domestic species <sup>[3]</sup>. 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 especially in sheep <sup>[1,4]</sup>. Ventral hernia invariably results due to a serious injury to the muscular portion of the abdominal wall <sup>[5]</sup>. It may also occur without trauma due to weakening of the abdominal musculature or rupture of prepubic tendon so that the gravid uterus cannot be supported <sup>[4]</sup>. The hernial swelling varied in location from iliac crest to the lateral side of the thoracic cavity. These swellings did not correspond, with the size of their rings <sup>[7]</sup>. Reports on hernias in goats are very rare <sup>[6]</sup>. The present study describes a successful management of a ventral hernia in a goat.

### Case history and Observations

A four month old Jamunapari doe weighing 15kg was brought to the SAQ teaching veterinary Hospital, CVASU, Chittagong with the history of

unknown cause, loss of appetite and gradual swelling in the pelvic region since one month. Clinical examination revealed reducible swelling that extended from the umbilicus to inguinal region (Fig 1), bilaterally distended and there was large opening on which viscera protruded. The presented case was diagnosed as ventral abdominal hernia and was decided to correct by surgically.



Fig 1: Ventral Abdominal Hernia in Goat.



Fig 2: Hernial content (Intestine and omentum)

### Surgical correction and postoperative care

The animal was prepared aseptically and maintained preoperative preparation of the patient and kept in dorsoventral position. Preoperatively the patient was infused with 5% dextrose saline and sedated by sedil (diazepam) intravenously at the dose rate of 0.5 mg/kg body weight and as well as ring block by local anaesthetic 2% lignocaine hydrochloride as the dose rate 1 ml/cm area. A sufficient longitudinal incision was done in the middle of the swelling and exposed hernial opening (Fig.2) and herniorrhaphy was done by using overlapping mattress sutures by synthetic proline suture materials size no. 3. Excess skin of the sac was removed and the subcutaneous tissue and skin were apposed with simple continuous suture by using catgut size no. 1 and horizontal mattress suture by using nylon size no. 2 respectively (Fig.3) and closed cutting edges were protected by tincture benzoin seal. Postoperatively antibiotic, Streptopenicillin (Streptopen<sup>®</sup>, 2.5 gm vial, The Renata Limited, Dhaka, Bangladesh) 2ml and antihistaminic Pheneramine Meleate (Histavet<sup>®</sup> The ACI Limited, Dhaka, Bangladesh) 1ml daily intramuscularly for 7 days and pain killer Ketoprofen (Kopvet<sup>®</sup>, Square Pharmaceuticals Limited, Dhaka, Bangladesh) 0.5ml for 3 days and dressing was done as alternative day. Surgical wound was healed at 10<sup>th</sup> postoperative day and sutures were removed the same day.



Fig 3: Closing the surgical wound

### DISCUSSION

Hernias have several deleterious effects, such as lowering the productivity and reproductivity of the affected animals. The incidence of ventral abdominal hernia in caprine accounts for 32.2% (19 in total of 59) in Pakistan<sup>[7]</sup> but there is no report available of ventral hernia in Bangladesh. Though it is a common condition, it is generally ignored by the rural farmer community unless it results in some serious symptoms. There are different acquired causes of ventral hernia. Though the exact cause of the hernia in the present study could not be traced it might be probably weakening of the abdominal muscles due to

violent trauma with blunt object or any accidental injury. 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 hernia contents depends on the site of the herniation<sup>[1]</sup>. Similar location was also noticed in the present study and there was large hernial opening through which protruded the viscera.

There is a report in ventral abdominal hernia of goat in 19 cases. It is more common above one year (14 cases) and more prone in female (14 cases). Omentum and intestine are the most common contents (12 cases) and abomasums (3 cases), gravid uterus (2 cases) and rumen (3 cases)<sup>[7]</sup>. In our present study follows the above findings in respect of sex and contents.

Diagnosis of ventral abdominal hernia is easy as the hernial ring can be felt in most cases and prognosis is guarded. 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 hernial ring is small. Surgical intervention (herniorrhaphy) is useful in case of large hernial opening but in extensive ventral abdominal hernia may require hernioplasty<sup>[7]</sup>. There is a report in India, a goat suffering from ventral hernia tear about 18cm length in lower abdominal muscle was successfully managed by a non absorbable suture material, proline - No.2 size using horizontal mattress suture<sup>[8]</sup> but in another report in Turkey, 10 young female goats with umbilical hernias and hernial ring sizes ranging from 7-10 cm in width were treated by hernioplasty using a double-layer polypropylene mesh<sup>[9]</sup>. In Pakistan ventral abdominal hernia of 19 case of goat, hernial ring size ranged from 15 – 40 cm in diameter was coaptated with mattress or myo-mattress suture pattern using Dexon No. 5 metric or braided polyester sutures 5 metric. In the present study, a tear about 15cm length was successfully corrected by herniorrhaphy without any complications. Postoperatively, reduce feed intake for a week and a supportive bandage placed around the abdomen may be helpful on the healing process.

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