



DYSTOCIA INDUCED BY VENTRAL ABDOMINAL HERNIA IN A PERIPARTURIENT GOAT: A CASE REPORT.

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ABSTRACT

A West African dwarf goat was presented to the Veterinary Teaching Hospital, University of Nigeria with the primary complaint of swollen abdomen and straining. Upon examination, the abdomen was observed to be enlarged and a fetus can be felt on abdominal ballottement. Presence of hernia ring was confirmed on the caudal ventral abdominal area before the umbilicus. Caesarean section and consequent herniorrhaphy was adopted to correct the hernia. Three kid goats were delivered, and the animal survived uneventfully.

Keywords: Dystocia, Caesarian section, Hernia, Pregnancy

INTRODUCTION

Hernia is defined as a passage of organ or tissue through an opening which may be natural or acquired with the skin remaining intact. It is usually presented as a soft swelling with the presence of a ring. The size of the swelling is related to the amount of eviscerated organs. Hernia can be classified based on: the aetiology e.g congenital or acquired; location e.g abdominal, umbilical, scrotal, inguinal etc., or clinical e.g reducible, irreducible (Fahd &

Ahmed, 2007). Hernia consists of hernia sac, ring, and contents. Ventral hernia is a hernia in which the tissue or the organs protrude through any part of the abdomen other than the natural openings (Krishnamurthy, 1995) or it is protrusion of organ or tissue through a tear in the abdominal wall (Yasin, 2004). Causes of abdominal hernia include severe trauma on the abdominal wall, injury from a blunt object, horn thrust in cattle, kicks in camels, abscess in the abdominal wall, overstretching or straining of abdominal

muscle by gravid uterus and parturition causing weak abdominal muscle. Another cause that is not traumatic is rupture of pre-pubic tendon so that it cannot support the gravid uterus (St Jean & Anderson, 2004). The sites of occurrence of ventral hernia vary from lateral side of the thoracic cavity to the iliac crest. Ventral hernias are more common in older animals than the younger (Mahdi, 2015). Ventral abdominal hernias are mostly seen in animals in advanced pregnancy especially in multiple fetuses which leads to weakening of the abdominal muscle or prepubic tendo (Vijaynand *et al.*, 2009). The present case is a case of ventral abdominal hernia in a pregnant West African dwarf goat (WAD) with three foetuses inside as seen in fig 1 and 2.



HISTORY

A West African dwarf female goat was presented to the veterinary teaching hospital, University of Nigeria, Nsukka with the primary complaint of abdominal swelling and (straining) labour that have lasted for one day. The age of the goat was estimated using incisor teeth eruption (Wilson and Durkin, 1984) to be around four and half years and has kidded triplets twice. The present pregnancy was the third pregnancy. There was no history of traumatic injury. Upon examination, the abdomen was noticed to be swollen on the ventral side (fig- 1 and 2) and the animal showed signs of intermittent straining. Pregnancy was confirmed with abdominal

ballottement. It was diagnosed to be ventral abdominal hernia with dystocia. Caesarean section was chosen to deliver the kids and herniorrhaphy was performed to correct the hernia.

SURGICAL PROCEDURE

The animal was prepared aseptically for surgery. Preoperative caudal epidural anesthesia was done with injection of 3ml of 2% lidocaine hydrochloride epidurally in between the last sacrum and the first coccygeal vertebrae. The goat was positioned dorso-ventrally. A sufficient longitudinal incision was made in the middle of the swelling to expose the hernia ring. The gravid uterus was exteriorized, and a single incision was made on the less vascularized area of the uterus. Three fetuses were brought out alive. The uterine incision was closed with double Lambert suture pattern using size 2 chromic catgut. The uterus was replaced in its position. The peritoneum and the muscle were closed with continuous suture pattern using size 2 chromic catgut. The subcutaneous tissue was closed also with chromic catgut. Horizontal mattress suture was used to close the skin using silk of size 2. However, prior to the closure of the skin; the incision was converted to semi-Lune in order to reduce excessive skin of the hernia. The hernia ring was also trimmed and closed with silk suture.

POST-OPERATIVE CARE

The goat was placed on antibiotics, streptomycin, and penicillin combination at the dose of 10mg/kg and 30,000IU/kg respectively for 5 days. Piroxicam injection was used as analgesic at the dose of 10mg/kg for 5 days. The recovery was uneventful, and the skin suture was

removed ten days post-surgery.

DISCUSSION

Hernia hampers production and profitability leading to economic loss in food animals (Keown, 1974). The incidence of ventral hernia in animals has been estimated to be 32.3% (Jattennavar *et al.*, 2010). Research conducted in 2007 reported that of all the different types of hernia, abdominal hernia had the highest incidence in both sheep (68.2%) and goat (71.43%) and gender has effect on the incidence of hernia. Female animal had higher incidence (37%) compared to the male (21%) (Fahd & Ahmed, 2007). The reason for the higher incidence in female may be because male animals with the same condition may not make it to the hospital. Another author also reported the incidence in caprine to be 32.2% in Pakistan 57 (Abdin-Bey & Ramadan, 2001). Age also affect the incidence of hernia in animals. Goats more than one year old have greater chances than younger goats (Abdin-Bey and Ramadan, 2001). There is dearth of information on the incidence of ventral hernia in goats in Nigeria. This case most times goes unreported by farmers unless when it becomes serious. There are different causes of ventral hernia in animals. In most of these cases, a severe blow to the abdominal wall is usually the cause, although it may occur without trauma, when there is weakening of the abdominal musculature in cases of gravid uterus (Arthur, 1996). In the present case there was no report of trauma or accident. The case may therefore be attributed to fetal pressure on the abdominal muscles, as the goat had the history of given birth to triplets

at each kidding. The weight of the multiple foetuses may have caused the over stretching of the abdominal muscle wall and consequent weakening of these muscles. Furthermore, the relative thin nature of the abdominal walls of goat could also be a risk factor. Muscle tearing and separation are therefore very common from blunt trauma or extreme abdominal distention (Smith and Sherman, 1994). Trauma or extreme abdominal distension in sheep sometimes causes rupture of the ventral abdominal muscles caudal to the umbilicus (Smith & Sherman, 1994). Ventral hernia often occurs in advanced pregnant animals usually to the right side of the abdominal floor, (Roberts, 1971) leading to dystocia (Oehme & Prier, 1974) as seen in the present case. The site of ventral abdominal hernia is usually near the midline and the size and the nature of the content varies (Krishnamurthy, 1995). In the present case, the hernia ring is very close to the midline and the content included the gravid uterus. Cases of hernia in pregnant animals have been reported elsewhere (Radhakrishnan *et al.*, 1993). The cases were corrected surgically before normal parturition. The late gravid uterus can become trapped in the hernia in a subcutaneous location, making vaginal delivery difficult (Smith & Sherman, 1994). In the present report, the goat involved was finding it difficult to kid. The timely caesarean section intervention and consequent herniorrhaphy saved both the kids and the dam. Surgical treatment of hernia is usually advocated especially in large hernia opening (Abdin-Bey and Ramadan, 2001). The surgical treatment of hernias in the current study is a satisfactory treatment regimen for hernia repair (Fig. 3). In other studies, the success rates of surgical treatment for all types of hernias were reported to be very high and there were no significant

difference in the success rate among the types of hernias in both sheep and goats (Fahd & Ahmed, 2007). The success rate was approximately 93% (54 out of 58 cases) (Fahd & Ahmed, 2007). Similar results were reported in another study in which 11 sheep with ventral hernias underwent surgical treatment (Tirgari, 1979). In the present case, the goat recovered, and the kids also survived.

CONCLUSION

To reduce the negative impact of hernia on production, there should be a collaborative effort between the farmers and veterinary officers. Pregnant goats should not be subjected traumatic forces and prompt reporting of cases to veterinary clinic whenever hernia is suspected is very important. Surgery has been proven to be the most reliable method of treating this condition. Veterinary officers should therefore handle hernia cases in pregnant animals as an emergency to save both the pregnant goat and the foetuses.

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