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Case report

Fatal post parturient uterine prolapse in a six year old Sokoto Gudali cow: a case report

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ABSTRACT

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This paper report of a fatal case of post parturient uterine Prolapse in a six year old pluriparous, Sokoto Gudali cow. The prolapse of the uterus is believed to be a common complication of the third stage of labour in the cow. The case being reported occurred some hours after a normal parturition. The uterus everted with the foetal membranes and some pockets of foetal fluids. About three ruptures were observed on the prolapsed uterus. The management of the case was discussed, even though the case eventually ends up fatally. Reports on uterine prolapse are very few in the cow in Nigeria.

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1. Introduction

Uterine prolapses are a common complication of the third stage of labour in the cow and the ewe (Roberts, 1971, Jackson 2004). In ruminants, uterine prolapses are generally a complete eversion of the gravid uterus, while in the sow and the bitch eversion is generally partial and comprises of one cornu only (Arthur, 2001; Jackson 2004) Multigravidas (dairy breeds) are more often involved than are heifers (Noakes *et al.*, 2004). The condition is predisposed by genetic as well as management factors and precipitated by straining, parturition and dystocia (Odegaard, 1977 and Vaughan, 1975). It has been suggested that the condition is rare in the Zebu cattle (Joseph *et al.*, 2001; Bhol and Parekar, 2009; Joseph *et al.*, 2001; Bello *et al.*, 2012a). There are very few reports of the

condition in the Nigerian livestock and veterinary literature (Burgess, 1975; Bhol and Parekar, 2009; Bello et. al., 2012b). Majority of the cases of prolapse occurs after a few hours of normal second stage labour, although in some it may be delayed several days (Burgess, 1975; Bhol and Parekar, 2009).

The cause of a prolapse of uterus is not clear (Arthur, 2001), but there is no doubt that it occurs during the third stage of labour within a few hours of the expulsion of the calf, and at a time when some of the foetal cotyledons have separated from the maternal caruncles (Arthur, 2001). The only conceivable force that could lift the heavy uterus out of the abdomen into the pelvis and thence propel it to the exterior is the abdominal straining combined with gravity; especially if the animal stands on a sloping stand, bank or hillside. The traction by a variable weight of freed dependent afterbirth containing variable loculi of retained uterine fluid and urine are probable additional forces precipitating prolapse, straining occurs normally during the third stage and is synchronous with the continuing peristaltic contractions of the uterus which occurs every 3.5-4 minutes. Prolapses also occur in conditions resulting from extreme relaxation of the external genitalia and cervix coupled with straining (such seen in retained placenta, trauma and lacerations of the tubular genitalia). Hyperestrogenism and hypocalcaemia have been shown to be contributing factors to uterine prolapse. Bello et. al., 2012a and Joseph *et al.*, 2001 observed a high number of prolapses in the Sokoto Gudali cows, which they suggested is noted for excessive relaxation of the external genitalia compared with other local breeds. The condition, it was also believed, was complicated by the feeding programme on one of the farms in which the animals were fed mainly on legumes, hay, some of which were observed to be mouldy. This would have resulted in hyperestrogenism that would further increase the relaxation of the external genitalia.

The signs of the condition are obvious. As a rule, the affected cow is recumbent (Gray, 1975). If the animal is in lateral recumbency, ruminant tympany usually results. But occasionally the cow will be standing with the everted organ hanging down almost to its hock (Roberts, 1971; Gray, 1975).

The prognosis will depend first on the type of case, secondly on the duration of the condition before treatment is forthcoming and thirdly on whether the organ has sustained severe injury. Nevertheless, as a sequel to a normal parturition and if professional assistance is given within an hour or two of its occurrence, the prognosis is good (Roberts, 1971; Arthur, 2001). Replacement of the organ does not offer insurmountable difficulties and recurrence after replacement is uncommon (Roberts, 1971; Arthur, 2001; Bello et. al., 2012). Moreover, such animals generally conceive again. In fact, repletion of the condition is the exception rather than the rule (Arthur, 2001 and Ocal, 1999).

Occasionally, prolapse of the uterus is followed in a matter of an hour or so by the animal's death. On post mortem examination in such cases it is found that death was due to internal haemorrhage, consequently on the weight of the everted organ having torn the mesovarium and the ovarian artery even in those case in which there has been delay and in which the endometrium is grossly contaminated and deeply congested, the prognosis is not hopeless; for, the recuperative powers of the organ are quite astonishing and thus, when dealing with the dairy cattle, amputation of the organ should only be considered when resolution is clearly impossible (Arthur, 2001, Humbar, 2011).

2. Anamnesis/case report

The attention of the authors was drawn to a case of a cow which had delivered a calf with eversion of the uterus four hours after delivery. Upon arrival at the scene, the cow was found to be recumbent and exhausted. The animal was straining and refused to rise in spite of numerous prodding and lifting. The ocular mucous membrane was found to be pale. A tissue mass was found to be everted. The parts identified were the uterus, the vagina and some parts of the foetal membranes. Some pockets of fetal fluid were palpated and found to have been trapped in the prolapsed uterus. Based on the clinical findings on the everted mass, a case of uterine prolapse was confirmed.

3. Correction/Intervention

The everted mass was washed with warm water, disinfected with Septol^(R) and placed on a clean sac spread behind the cow. A hypertonic sugar solution was used in attempt to reduce the massively enlarged uterus. Haemorrhages were observed from the uterus and two ruptures were identified and sutured. Replacing the

prolapsed mass presented with the cow being recumbent and unable to rise and also due to an increased in intra-abdominal pressure; because of the animal was recumbent. Several efforts were made to make the animal stand but without success. The hindquarter of the cow was raised with the help of two wooden pestles and four wooden mortars (implements at hand at the site). Raising the hindquarters facilitated the return of the everted mass (Jackson 1995 Benesch and Wright 1951; Bhol and Parekar, 2009). Upon the replacement of the prolapsed tissue; the remnants of the fetal membranes were removed. The animal was given antibiotic care with 250mg oxytetracycline at a dose of 10mg/kg body weight.



Key: A= Photograph showing the everted uterine mass at presentation
B= Photograph showing the everted uterine mass at intervention
C= Photograph showing the everted reproductive tract with the uterus (A) and fetal membrane(B).
D= Photograph showing manual intervention of the everted uterine mass

3. Complications

Some complications did occur. First there was the excessive enlargement of the prolapse due to the time lapse between eversion and its reporting. Secondly, the huge mass of the everted tissues prolapsed entangling the

foetal membranes including some pockets of foetal fluids which added to the size and weight of the oedematous, prolapsed tissues. Thirdly, there were a number of uterine tear which resulted in a considerable degree of haemorrhages. Fourthly, there was the strong possibility of the rupture of the uterine arteries which eventually led to significant loss of blood by the dam; and very possibly, to its consequent terminal collapse.

4. Discussion

Uterine prolapse is a rare obstetrical condition (Marshall, 1975) and it appears to be so even in the Sokoto Gudali breed of cattle in northwest, Nigeria. Bello *et al.*, (2012b) have suggested that there is a peculiar bred incidence associated with Sokoto Gudali. The incidence of uterine prolapse in Nigeria appears to be relatively few as evidenced by the few reports in our literature. According to Arthur, (2001) uterine prolapses occur in about 0.5% of calvings. In spite of their rarity in the cow, uterine prolapses are said to be observed most commonly in the cow and the ewe; occasionally in the sows and rarely in the dogs and cats. Uterine prolapses are also said to occur more in Multigravidas than in heifers (Odegaard, 1977; Bhol and Parekar, 2009).

The clinical findings in this case were in many respects as described by several earlier reports (Roberts, 1971; Burgess, 1975). We had no problem identifying the condition as described by Arthur (1986). The prolapse occurred spontaneously about three hours after a normal parturition, the neonate was healthy. Briefly afterwards, the cow went into recumbency. The attention of the authors was drawn about two hours after the prolapsing of the uterus. This case presents some peculiar difficulties (already described as complications above) which ought to be considered by clinicians when managing case of uterine eversion. In the first instance, the uterus prolapsed before the complete expulsion of the fetal membranes, i.e. the foetal membranes were trapped and twisted within the prolapse (which was oedematous) and secondly, the cow went into lateral recumbency afterwards refusing to rise despite numerous proding and assistance by raising its hindquarters. The failure of cows with uterine prolapse to rise is a common observation and an obstacle to the reduction of a prolapse. The recumbency can be related to the fact that the cow has just gone through the exhausting rigours of parturition. The ocular mucous membrane of the cow was found to be very pale, suggesting profuse blood loss due to haemorrhage from the uterine ruptures. The uterus was found to have ruptured in three places which were bleeding. Uterine ruptures in prolapses are a common occurrence (Roberts, 1971; Burgess, 1975). The ruptures had to be sutured. That some pockets of foetal fluid have been trapped within the prolapsed tissue and refused to be retracted presents an additional problem, as it added to the bulk of the uninvoluted, prolapsed mass. This made the reduction of the prolapse tedious. It is almost impossible to reduce a prolapsed uterus, the dam in a recumbent position as experienced after several attempts due to the inability of the animal to stand. Recumbency in cows with everted uterus is a problem that must be addressed largely because the resultant increase in intra abdominal pressure greatly reduces the abdominal and pelvic cavity space. Recumbency is said to be almost a rule rather than the exception. Hence, we had to raise the hindquarters of the cow to pestles, passed under the animal and raise at the same level each one placed on either side on top of one of the mortars. Doing this facilitates the repositioning of the prolapsed tissue (Bhol and Parekar, 2009).

The enlarged and oedematous uterus seems also to contain pockets of foetal fluids which added to the difficulty of reducing the prolapse. An incision had to be made to facilitate the draining of the fluid which happens to be due to haemorrhage, most likely due to rupture of the ovarian arteries. After the repositioning of the prolapse, clinical examination of the cow revealed a very weak pulse and an almost paper white ocular mucous membrane; Suggestive of extensive loss of blood (anemia). Little could be done as regards the heavy blood loss for, the client had already complained of lack of money, and cannot afford even the basic of the treatment being undertaken as such continuing the therapy become impossible. In fact, the client was already suggesting salvage and had called for a butcher, even while we were battling to reposition the everted uterus. The animal collapsed shortly afterwards.

According to Roberts (1971) and Gray (1975), in cases which complicating factors of internal haemorrhage due to rupture of one of the uterine vessels, shock carceration and ischaemia of intestines, or other diseases such as milk fever, may cause the animal to be recumbent. Very rapid, weak, irregular rapid respiratory rates, pale mucous membranes, prostration, severe depression and inability to rise, indicated serious complications. In case being reported, extensive hemorrhaging was seen, when the uterus was punctured to reduce the fluid engorgement, the fluid that oozed was blood laden due most likely to additional severe hemorrhaging from the ovarian arteries as observed by Roberts (1971).

The prognosis in uterine prolapse varies greatly (Bhol and Parekar, 2009). In most cases in which the condition is observed earlier and the veterinarian called promptly, the cow made to stand and the uterus not severely injured the prognosis for the life of the cow is good. In other cases with the animal prostrate, unable to rise and the condition complicated by shock, internal hemorrhage or incarceration of the intestines, the prognosis is usually from very poor to hopeless (Roberts, 1971; Burgess, 1975; Jackson 1995). Sometimes due to extensive damage to the uterus after the prolapse, hysterectomy or amputation is undertaken. Hysterectomy or the amputation of the prolapsed uterus is undertaken only when replacement is impossible or when it is quite certain that replacement of a badly torn, lacerated, necrotic, infected uterus could result in death. Bello *et. al.*, (2012b) have suggested that there is a peculiar breed incidence associated with the Sokoto Gudali. This needs to be investigated as there are only very few studies to confirm this.

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