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Successful management of a case of dystocia due to Feto-pelvic incompatibility in heifer cow

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Abstract

A Holstein Friesian heifer cow with a case of dystocia due to relative oversize fetus and feto-pelvic incompatibility was presented. On clinico-gynaecological examination it was found that one forelimb along with head was found to be protruded out of the vagina. On clinical and per vaginal examination it was found that the fetus was found to be dead as palpebral and suckling reflex was not present and the tongue was lying out of the mouth in the left commissure of the lips. Its successful management following laparohy sterotomy due to feto-pelvic incompatibility has been described.

Keywords: Feto-pelvic incompatibility, Dystocia, Flexion of extremities

Introduction

Broadly, the fetal origin of dystocia can be divided in general to the abnormal 3P's (P1=presentation, P2=position and P3= posture) and excessive fetal size relative to the maternal pelvis (Feto pelvic-disproportion) (Roberts 2004) [12]. Deviation of the head and flexion of the various joints in anterior presentation, flexion of both hind limbs (Breech) in posterior presentation, or twins may cause dystocia (Hafez *et al.*, 2000) [5]. The most common cause of dystocia in cattle is feto-pelvic disproportion. The situation is most common in heifers where the fetus is of normal size for its breed but the maternal pelvis is of insufficient size (Relative over size) or the fetus may be unusually large and cannot be delivered through a pelvic canal of normal size (Youngquist *et al.* 2007) [15] (Dessie A 2017) [1]. Pelvic abnormalities of the dam that can result in dystocia include small size of the pelvis (Purohit *et al.*, 2012) [11], pelvic deformities, exostoses, osteomalacia and hypoplasia of the vagina and vulva (Kodagali, 2003) [6]. Narrow pelvis is a common maternal cause of dystocia in the buffalo (Singh *et al.*, 1978) [14]. The incidence of narrow pelvis in cattle and buffalo is known to be 7.79% (Phogat *et al.*, 1992) [8] to 9.2% (Sharma *et al.*, 1992) [13]. Pelvic fracture is one of the main causes of narrow pelvic canal (Dubay, 1987) [2]. In animals with narrow pelvis, parturition may not proceed over first stage, as the chances of fetus being stuck in the pelvic inlet are more. Surgical intervention is the only way for delivering the fetus in such cases, as forced traction may endanger the life of both dam and offspring (Dutt *et al.*, 2017) [3]. The present report describes a case of dystocia due to relative oversize fetus and feto-pelvic incompatibility.

Materials and Methods

Case history and clinical observations

Three year-old Holstein Friesian heifer with full term of pregnancy was presented by a farmer of Umiam, Meghalaya-793103 at 11 pm mid night with a history of straining and rupture of water bag in the past eight hours with protrusion of fetal head in the vagina followed by cessation of straining, thereafter. Unsuccessful attempts were made by local animal health workers to deliver the fetus and came up with one forelimb extended along with head out of the vagina. On clinical examination the rectal temperature was 101.8⁰ F, heart rate and respiration were found within the normal limit. Per-vaginal examination revealed that the uterine cavity was dry and devoid of any lubrication. The maternal pelvis was narrow. The vagina, cervix and uterus were free from lacerations. The fetus was large in size when compared to maternal pelvis; there was merely no space to repel the fetal head to the pelvic cavity to obtain the space for the correction of the malposition.

On thorough examination of the animal, the foetus was found to be in anterior longitudinal presentation, dorso-sacral position with one of the fore limb retained against dorsal border of the vagina in an extension posture beneath the body and another forelimb and head was lying outside the vagina. Absence of palpebral and slight suckling reflex revealed the fetus as dead. Due to narrow maternal pelvis and large fetal size per-vaginal delivery was not possible. As the owner didn't allow to proceed for fetotomy because of some religious sentiments. Caesarean section was next option left out.

Treatment and Discussion

Caesarian section was performed under high caudal epidural anesthesia combined with local infiltration anesthesia achieved by using 2% lignocaine hydrochloride injection on left ventro dorsal site adopting standard protocol as per Noakes *et al.*, (2009)^[7]. Location of uterus was traced, incised on the greater curvature of uterus and away from caruncles. At first the foetal head was pushed inside the pelvic cavity followed by repletion of the head and traction of the hindlimbs, the fetus was relieved out of uterus in posterior longitudinal presentations. The fetal membranes were gently removed completely from the uterus. The uterus was flushed with Metronidazole solution and four number of intrauterine bolus containing furazolidone and urea was placed into the uterus. The uterus was then closed using lambert suture. Peritoneum, muscle and skin were sutured in routine manner after flushing peritoneal cavity with metronidazole solution. Animal was administered with inj. Ceftriaxone tazobactam combination 4.5 gm I.V, Inj. Flunixin meglumine 2.2 mg/kg b.wt I.V route, once daily for 5 days and Inj. chlorpheniramine maleate 15 ml. inj. i/m, 20% dextrose solution (2 L), inj. 0.9% Normal saline solution (2 litres) and Supportive fluid therapy followed a course of antibiotic and anti-inflammatory was thereafter continued for 5 consecutive days. Antiseptic dressing was done using povidone Iodine regularly for 10 days. The sutures were removed on 10th day of the caesarean section. Foeto-maternal disproportion is one of the major contributors to dystocia and this can be prevented with proper reproductive management. Because heifers are generally smaller than cows, they have an increased risk of dystocia. The size of heifers at breeding should average 66 percent of their mature weight, with a minimum of 60 percent (Gavit SP 2014)^[9]. Indications for caesarean section include fetal oversize, fetopelvic disproportion and incomplete dilation of the cervix (Roberts 2004)^[12]. Caesarean section is universally opted for such complicated dystocia (Purohit *et al.*, 2013)^[10]. If the birth canal is too narrow, it is advised to opt for caesarean section (Purohit *et al.*, 2011)^[9]. But before opting for caesarean section, vaginal examination is mandatory to judge the birth passage. In case space is optimum for obstetrical mutation, gentle traction may be applied on the fetus after plenty of lubrication, as employed in the present case



Fig 1: Case was presented in this condition



Fig 2: Laparotomy via flank region



Fig 3: Suturing after the muscle layer



Fig 4: fetus after delivery

Results

After laparotomy the dead fetus was delivered successfully and it started producing 10-12 L of milk 21 days post Caesarean section. The animal recovered and came into heat after 5 months. But, the animal was not bred as the pelvis is narrow indicating a chance of dystocia in the next delivery.

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