

Case Report

**SUCCESSFUL MANAGEMENT OF DYSTOCIA IN HOLSTEIN
CROSSBRED COW: AN UNUSUAL FINDING**

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Abstract: A Holstein crossbred cow was presented to our Referral Veterinary Polyclinic with complications of continuous straining and inability of dam to deliver the fetus. The animal was in its fifth parity with history of complete gestation. Per-vaginal examination revealed that fetus was dead and relatively oversized. It was in anterior presentation with fetlock flexion. Consequently, an oversized female fetus was delivered through general obstetrical procedure and the cow recovered uneventfully following proper postpartal therapeutic management with antibiotic, analgesic and uterine cleanser. Handling of the presented case, obstetrical correction, its post-delivery care and therapeutic medication is further discussed.

Keywords: Oversized fetus, Crossbred cows, Dystocia.

INTRODUCTION

Steady evolution, domestication and breeding programme (e.g. cross-breeding) have resulted in increased incidence of dystocia in dairy cattle due to relatively oversized fetus to its dam, as compared to other mammals (McClintock, 2004). Dystocia is considered as one of the most important obstetrical and painful condition in cattle (Huxley and Whay, 2006) and it should be given instant veterinary assistance. Bovine is the most affected species with dystocia. Any physical or functional alteration causing hindrance in birth process ultimately paves the way for dystocia (Srinivas *et al.*, 2007). Etiology of dystocia has been classified into maternal and fetal causes (Noakes, 2009). Among the fetal causes, oversized fetus has a significant influence on birth; it can be either relative or absolute. Sex of calf certainly influences birth weight and size of calf. Many studies have shown that irrespective of breed, birth weight of male calves is greater than female calves (Noakes, 2009).

CASE HISTORY AND OBSERVATION

A Holsteincrossbred cow (about 8 yearsold) was presented to Veterinary Referral Polyclinic of institute in the evening hours. Cow was in its fifth parity with history of complete gestation. Cow having history of difficult birth and straining since early morning and local

paravets had already handled the case for about 3 hours or more at village level (Milak, Bareilly district). The cow was in standing condition with moderate alertness. The temperature, pulse and respiration rate were normal. Relaxation of sacrosciatic ligament and udder engorgement were evident. The vulvar lips were congested due to earlier mishandling and malprocedure. Per-vaginal examination revealed that cervix was fully dilated with palpable dead fetus and ruptured water bag. Fetus disposition was anterior presentation, dorso-sacral position with flexed fetlock posture. Head and size of fetus revealed its large size with sufficient fetal fluid. So case was diagnosed as dystocia due to relatively oversized fetus.

TREATMENT

After proper restraining of animal in sternal recumbency, epidural anesthesia was given at first intercoccygeal space using 5 ml lignocaine hydrochloride (2%) through sterilized syringe in aseptic manner. The hind quarter along with the perineum region of the animal was cleaned properly by potassium permanganate solution. Appropriate lubrication with liquid paraffin was followed. Correction of the posture was done by extending both the fore limbs. Accordingly, snare was applied on both the legs above the fetlock level and repelled back into abdominal cavity to create space for correction of head of the fetus. After that eye hook was fixed in the inner canthus of the fetal eye and steady traction was applied to pull it out from birth canal. Once head came out, traction was applied on both the fore legs with plentiful lubrication. With continued tractive efforts, we were able to deliver the dead fetus successfully. The sex of the fetus was female and it was relatively oversized with body weight of 43.5 kg.

Animal was administered six litre of fluid replacement therapy (Intalyte, Intas Pharmaceuticals Ltd.[®]) infused intravenously, calcium and magnesium borogluconate (Mifex, Novartis[®]) 300 ml slow I/V and 150 ml S/C, antibiotic amoxicillin plus sulbactam (amoxirum forte, Virbac[®]) 3.0 g intramuscularly for 5 days, NSAID meloxicam (melonex, Intas Pharmaceuticals Ltd.[®]) 15 ml intramuscularly for three days, dexamethasone (Dexona, Zydus AHL[®]) 10 ml intramuscularly and six intrauterine nitrofurazone-urea boli (Furex, Vetsfarma Ltd.[®]) for 3 days. Oral uterine cleanser (Uterotone liquid, Cattle Remedies India Ltd.[®]) was given for 10 days to boost up uterine involution. Cow recovered uneventfully following post-partum therapeutic management.

DISCUSSION

Dystocia rate can be up to three times lesser in pluriparous dams compared to that in primiparous (Meyer *et al.*, 2001). Fetal size is an intermediate cause which is responsible for dystocia because it ultimately leads to feto-maternal pelvic disproportion (Mee, 2007). Calf birth weight or size is the most important indicator of dystocia risk, and is most influenced by gestation length, parity, fetal gender, breed of sire and dam, nutrition of dam, climate during last trimester, and *in vitro* embryo culture (Mee, 2007). Irrespective of gestation length, increased calf birthweight results in high risk of dystocia (McClintock, 2004). Average 9% greater birthweight of male calves was reported than those of female calves (Kertz *et al.*, 1997). Mean calf birth weight was reported to be highest (45 kg) at third calving in Holstein dams (McClintock, 2004). Genotype of an individual can account for up to 60% variation in birthweight or size though the heritability of dystocia is 2-10% only (McClintock, 2004).

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Fig 1: Oversized female fetus delivered through obstetrical operation



Fig 2: Rear quarter (showing genitalia) of female fetus