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SUCCESSFUL MANAGEMENT OF MONOZYGOTIC TWINS WITH POSTURAL DEFECTS IN WATER BUFFALO

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ABSTRACT:

Current case report depicts successful delivery of monozygotic twin fetuses with mal-postures in water buffalo by traction following induction of parturition with hormonal therapy.

KEY WORDS: *Dystocia, Twins, Mal-postures, Monozygotic, Water buffalo.*

INTRODUCTION:

Dystocia is defined as delayed or difficult calving, sometimes requiring significant human assistance (Uzamy *et al.*, 2010). Dystocia with twins resulted primarily (78.9%) either abnormal presentation of head or legs of one or both twin fetuses at parturition in bovines (Echternkamp S.E. and Gregory K.E., 1999). Twinning in buffalo cows is only about 0.01% (Fisher

& Adenil 1956). The twins are generally assumed to be dizygotic (Johanson *et al.*, 2001) arising due to fertilization of two ova by two separate sperms. Dizygotic are the most common type of twin, may be of the same or different sex and are more than two-thirds of live twin births (Singh *et al.*, 2011). Monozygotic twins are genetically and phenotypically identical since they are formed from one fertilized egg, which splits into two identical halves during early embryonic developmental stages. Thereby, both individuals are always of the same sex (Cobanoglu *et al.*, 2010). The present case report was aimed to depict the successful delivery of monozygotic twins by traction in water buffalo. **CASE**

HISTORY AND CLINICAL OBSERVATIONS

A case of Murrah buffalo in her 4th parity was brought to Veterinary Clinical Complex, Hisar with a history of 15 days over gestation and absence of straining. Interrogation with owner revealed presence of anorexia and abdominal discomfort for last 3 days. All the clinical parameters (temperature, pulse and respiratory rate) were in normal range. Per-vaginal examination indicated two fingers dilatation of external os. There was absence of torsion. Fremitus was prominent and fetal reflexes were evident.

TREATMENT

According to the physical condition of animal and clinical observations, induction of parturition was opted as prime treatment. Animal was administered inj. Dexamethasone (40mg i/m.), inj. Cloprostenol (500µg i.m.), inj. Estradiol benzoate (2mg i/m.), inj. Valethamate bromide (40mg i/m.) and Calcium-magnesium-boro-gluconate (450ml i/v.). After 24 hours of treatment animal showed rupture of first water bag (Fig. 1). On per-vaginal examination, cervix was observed to be fully dilated and fetal head was laterally deviated and a live female fetus was delivered by gentle traction. Manual deep uterine exploration revealed presence of another fetus. Inj. Oxytocin (50 I.U. i/v) was administered in normal saline. After around 15 minutes, the second fetus having right carpal flexion and left shoulder flexion was delivered by mutation (Fig. 2). In the present case, the second fetus did not hamper the passage of first one. Eight intrauterine boli (Cleanex[®]) were put into the uterus to prevent local uterine infection. Consequently, animal was advised for fluid therapy (3 liter normal saline), metronidazole (3g, IV Metronidazole, Baxter Healthcare Ltd), broad spectrum antibiotics (4.5g, Ceftriaxone-tazobactam; Intacef-Tazo, Intas Pharmaceuticals Ltd), anti-inflammatory (20ml, Meloxicam, IM; Melonex, Intas Pharmaceuticals Ltd), uterine ecbolics (100ml, PO, Exapar, Ayurved Ltd) and liver tonic (10ml, IM; Belamyl, Sarabhai Piramal) and animal recovered uneventfully.

DISCUSSION:

Dizygotic twins are considered to be more common than monozygotic twins. More than one dominant follicle may develop, and twinning may occur during summer in bovines (Ryan and Boland 1991). Twinning in bovines shortens the length of gestation and increases the incidence of retained placenta and of dystocia (Echternkamp S.E. and Gregory K.E., 1999). Contrarily, in the present case twinning

accompanied with prolonged gestation. This might be because of unicornual twins that caused inertia of the distended uterine horn (Roberts, 1971). Genotypic examination was not conducted but both were identical phenotypically and were of female sex. Therefore, we named them as monozygotic twins. Monozygous births are biologically a unique phenomenon, which occurs for about 2-10% of all liked sexed twins in cattle (Hancock, 1954). The incidence of dystocia due to conjoined twin has been reported to be higher than that of individual twin (Bugalia *et al.*, 1990). Normal per-vaginal delivery of such type of twins is difficult due to impaction of fetus in birth canal thereby resulting in dystocia. Therefore, in such cases of dystocia, it is better to first go for mutation. If the fetus is not delivered by mutation, caesarean section is advised as the last resort.

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Fig.1: Buffalo in first stage of parturition



Fig. 2: Buffalo with second dead female fetus