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Dystocia due to dicephalic thoracopagus tetrabrachius bipus monster in a buffalo: A case report

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Abstract

A rare case of dystocia in an indigenous buffalo due to a Dicephalus Thoracopagus Tetrabrachius Bipus monster is reported with successful management by partial Fetotomy and caesarean section with uneventful recovery of the dam.

Keywords: Buffalo, monster, tetrabrachius, thoracopagus, bipus

Introduction

The developmental abnormalities in the growing foetus that cause distortion of organs and body systems are termed as foetal monsters. Congenital abnormalities or malformations such as duplication of the body structures caused due to abnormal duplication of the germinal layer i.e. the abnormal duplication of the inner cell mass in an embryo gives rise to fetuses whose body structures are partially but not completely duplicated (Robert, 1971) [6]. Dystocia is a common sequel of such monstrosity and most of the cases are resolved either by fetotomy or caesarean section. In the present case report, a dicephalic thoracopagus tetrabrachius bipus monster was relieved by partial fetotomy and caesarean section.

A five year old indigenous buffalo was presented to Veterinary Hospital, Balichakra Tq & Dist: Yadgir, with history of straining and inability to expel foetus. Water bags had ruptured 5 hours before presentation and the case was handled by quacks who failed to correct the dystocia. At the time of presentation, the animal was dull, depressed and straining was completely ceased. The hind limbs of the foetus were found hanging out from the birth canal (Fig. 1). Detailed gynaeco clinical examination revealed that the birth canal was completely impacted with foetal pelvic bone. On the basis of per-vaginal palpation, the case was diagnosed as dystocia. Attempts were made to relieve dystocia through manual traction which was not fruitful, then it was decided to go for partial fetotomy of the exposed hind limbs at the level of rump region, inspite of performing fetotomy the foetus could not be taken out per vaginally, hence decision was made to perform C section.

The animal was restrained in right lateral recumbency and the site was prepared aseptically (Fig. 2). Desensitization of the surgical site was achieved by Paravertebral anaesthesia (Faquharson's method) followed by inverted L block using 2% Lignocaine HCl. The buffalo was stabilized with fluid therapy comprised of inj. Dextrose Normal Saline and Normal Saline @ 2 litre each I/V along with Calcium borogluconate @ 250 ml I/V and antibiotic (Ceftiofur @ 1.1 mg/Kg b.w., I/M) anti-inflammatory (Meloxicam @ 0.2 mg/Kg b.w., I/M). Linear incision was given on the lower flank region, muscles and subcuticular tissues were separated and the uterus was exteriorised. Foetal monster (Fig. 3) comprising of 2 heads, 4 forelimbs and 2 hind limbs (named dicephalic thoracopagus tetrabrachius bipus) was removed from the uterus. The surgical site was closed as per the standard surgical procedure. Post operatively antibiotic (Ceftiofur @ 1.2mg/Kg b.w., I/M) was given for 5 days and anti-inflammatory (Meloxicam @ 0.2 mg/Kg b.w., I/M) for 3 days.

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Fig 1: Hind limbs of foetus hanging out from vulva



Fig 2: Preparation of surgical site



Fig 3: Dicephalic thoracopagus tetrabrachius bipus foetal monster

Discussion

Conjoined twins may be caused by a number of factors such as genetic, environmental, and infectious agents along with assisted reproductive techniques such as In vitro fertilization (IVF) and Intracytoplasmic sperm injection (ICSI) (Shimizu *et al.*, 2004)^[9]. Conjoined twins arise from a single ovum, are monozygotic in nature (Arthur, 1956)^[1] and are the frequent cause of dystocia in cattle and buffalo. Conjoined twins are also known as diplopagus monsters (Siamese twins). This type of fetus is due to congenital embryonic duplication of germinal layer arising from single ovum (Kumar and Reddy, 2008)^[3]. Caudal duplication of foetus is less common than that of the cranial duplication (Robert, 1971)^[6]. Differentiation of embryonic disc begins on the 13th day of conception. If the split occurs after day 13, then the twins will share body parts in addition to sharing their chorion and amnion (Finberg, 1994)^[2] that gives rise to the monozygotic foetus with partial duplication of body structures. Dystocia due to conjoined twins, such cases have been reported earlier

in buffalo (Singh and Pandey, 2013; Sachan *et al.*, 2016 ; Gehlod *et al.*, 2017)^[12, 7, 5] and in cow (Singh *et al.*, 2011; Sharma *et al.*, 2013; Kumar *et al.*, 2014)^[11, 8, 4]. The present case seemed to be a noninherited teratogenic defect of development as there was no history of monstrosity in previous calvings.

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