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Pervaginal delivery of a conjoined thoraco- sternopagus tetrabrachias tetrapus dicaudatus monster in a buffalo heifer

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Abstract

Dystocia may be defined as process of delayed or prolonged calving resulting from severe assisted extraction or any fetal abnormalities. Fetal monstrosities has long been recognized as a cause of dystocia in animals. This is incompatible with life. The present study focused on the handling of such fetal monster and successful treatment in buffalo heifer. A rare case of dystocia due to conjoined thoraco-sternopagus tetrabrachias tetrapus dicaudatus monster in a buffalo heifer having two heads, four forelimbs, four hindlimbs with two tails and its clinical management was described in the present investigation.

Keywords: Dystocia, thoraco-sternopagus, monster, buffalo, forced traction

1. Introduction

A monster is a malformed fetus. Fetal anomalies and monstrosities are common cause of dystocia in bovines [11] and are disturbances of development that involve the sexual organs and cause great distortion of the individual [12]. They are usually associated with either with infectious diseases or congenital defects [1] and may or may not interfere with birth [10, 4]. Abnormal duplication of germinal area in fetus will give rise to congenital fetal abnormalities with partial duplication of body structure [9]. Varying degree of fusion occurs; but anterior duplications are more seen in ruminants and swine [1]. Conjoined twins also called double monsters are the most common group of fetal monsters in cattle with an incidence of 33.1% [8]. However, they occur occasionally in buffalo [3]. Diplopagus is a conjoined twin in which component parts are symmetrical. Conjoined twins arise from a single ovum and occur one in 1,00,000 bovine births, the sternopagus twins are joined at sternal region with duplicated internal organs and they are face to face [8]. They develop following incomplete separation after development of embryonic plate [13]. The present report discusses successful pervaginal delivery of fetal dystocia due to thoraco- sternopagus monster in a buffalo heifer.

2. Materials and Methods

A full term pregnant buffalo heifer aged 5yrs was presented to Teaching Veterinary Clinical Complex, NTR College of Veterinary Science, Gannavaram with a history of straining for the past 6 hrs. Two fetal legs were seen at the vulval lips without any progress. The case was earlier attempted by local veterinarian but was futile. Physiological parameters like temperature, pulse rate and respiratory rate were within the normal range. Pervaginal examination showed two hind limbs and tail in the birth passage, with a completely dilated cervix, dry birth canal and fetus in posterior longitudinal presentation. Repulsion and deeper exploration revealed a conjoined twin monster. The defect was diagnosed as conjoined thoraco-sternopagus twin monster.

3. Results and Discussion

The animal was administered with dextrose normal saline (3 liters; I/V) before obstetrical intervention. After adequate lubrication with carboxy methyl cellulose, correction and alternative forced traction under epidural anaesthesia, a dead intact conjoined twin monster was delivered (Fig. 1). The dam was administered with fluids such as dextrose normal saline (4 liters; I/V), calcium borogluconate (450ml; I/V), analgesics like Meloxicam (0.5mg/kg bw; I/M), and broad spectrum antibiotics like Bistrepen-V (5g; I/M).

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Exploration of the monster revealed a co-twin, both female fetuses with ventral sides fused from sternum to umbilicus and are having two heads, four forelimbs, four hindlimbs and two tails. All the external organs including eyes, ears, nostrils, tongue, anus were fully developed, separate and apparently normal. On postmortem examination (Fig. 2), co-twins had two distinctly separated hearts in a single pericardial sac and two separate lungs. Fetuses had a single common enlarged liver with two gallbladders. Complete duplication of other organs in abdominal cavity was noticed (Fig. 3). These observations were similar to the reports of [3, 7].

As per classification of [5], conjoined twins are monozygotic in origin and are due to incomplete division of one embryo into two components usually at primitive streak developmental stage. Embryonic duplications are malformation due to abnormal duplication of the germinal area giving rise to fetuses whose body structures are partially duplicated. Several reports on chromosomal abnormality in such twins suggest a genetically imperfect embryo that develops into a defective conjoined foetus [6]. The present case was perhaps of its kind in which duplication occurred at both cranial and caudal ends and was diagnosed to be dicephalus, thoraco-sternopagus, tetrabrachius, tetrapus, dicaudatus fetal monster. With the present investigation, it was suggested that, pervaginal delivery by moderate traction can be carried out successfully in case of fetal monstrosities.



Fig 1: Conjoined Thoraco- Sternopagus twin monster



Fig 2: Postmortem examination



Fig 3: Duplicated components of different organs

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