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Ravikumar K
Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Gawhane Abhishek Subhash
Post Graduate Scholar, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Periyannan M
Post Graduate Scholar, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India.

Selvaraju M
Dean, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India.

Ezakial Napolean R
Professor and Head, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India.

Palanisamy M
Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India.

Jenifer Merry Cherian
Post Graduate Scholar, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Corresponding Author
Periyannan M
Post Graduate Scholar, Department of Veterinary clinics, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Successful delivery of Dicephalus Derodymus Dicaudatus monster in a Jersey crossbred cow by partial fetotomy

Ravikumar K, Gawhane Abhishek Subhash, Periyannan M, Selvaraju M, Ezakial Napolean R, Palanisamy M and Jenifer Merry Cherian

Abstract
A 5 year old pluriparous full term pregnant Jersey crossbred cow was presented to VCC, VC&RI, Namakkal with the history of dystocia. Based on the per-vaginal examination the case was diagnosed as dystocia due to double head monster. Under epidural anesthesia the animal was restrained in hindquarter elevator and birth canal was lubricated with antiseptic cetrimide cream. Forced extraction traction followed by the partial fetotomy dead Dicephalus Derodymus Dicaudatus monster was delivered. Three days after the post-operative treatment the animal recovered uneventfully.

Keywords: Dystocia, Jersey crossbred monstrosity, Dicephalus Derodymus Dicaudatus, Fetotomy, Forced extraction.

Introduction
Conjoined twins are monozygotic in nature and this condition occurs at the age of day 8 due to incomplete separation of embryonic plate (Selvaraju *et al.*, 2020) [5]. Developmental fetal abnormalities such as fetal monster, fetal ascities and fetal maldispositions contribute 5-10 percentage of the dystocia in a bovine. Monstrosity of the fetus most oftenly related with infectious diseases and congenital defect (Periyannan *et al.*, 2021a) [2]. Incidence of dystocia due to double head monster is more common in ruminants (Thangadurai and Selvaraju, 2015) [6] but perusal of recent reports revealed incidence of double neck (Derodymus) monster is rare. Since, this article reports successful pervaginal delivery of this Dicephalus Derodymus Dicaudatus monster in a Jersey cow.

Case history and clinical examination
A Jersey crossbred cow on its 2nd parity weighing about 350 kg was presented to the VCC, VC&RI, Namakkal with the history of full term pregnant and signs of active labor since last 12 hours; Further, owner stated that there was a delay in fetal delivery after the rupture of water bag and an attempt made by field veterinarian was futile. On clinical examination all the physiological parameters were normal except increased respiration. Per-vaginal examination revealed fully dilated cervix with double head monster, the presentation of the monster was anterior longitudinal and position was dorso-sacral with extended two forelimbs. Considering the complete cervical dilation and fetal size it was decided to deliver the monster per-vaginally by performing the fetotomy.

Treatment
After giving caudal epidural anaesthesia with 3 ml of 2% lignocaine hydrochloride the animal was restrained on its right lateral recumbency in the hindquarter elevator. By using the wire introducer the loop was formed and fixed over the right side neck of the monster. After that saw wire was threaded in Thygeson's fetotome (Fig.4) and right head with neck was removed. Then thorough lubrication of birth canal was done with antiseptic cetrimide cream and retained foetus was delivered by forced extraction. The foetal membranes were removed manually and the animal was treated with inj. dextrose 1 lit (i.v), calcium borogluconate 450 ml (i.v), inj. oxytocin 50 IU (i.m), inj. enrofloxacin 15 ml (i.m), inj. meloxicam 15 ml (i.m). Except calcium and oxytocin all other drugs were administered consecutively for 3 days and the animal recovered uneventfully.

Discussion

In cattle, frequency of twinning is rare which ranges from 2 to 3% and incidences of monozygotic twining occur at the rate of 0.1% (Verma *et al.*, 2018) [7]. Duplication of anterior part is more common than that of posterior part (Selvaraju *et al.*, 2020) [5] and almost 75% of conjoined twins were reported as cranial duplications in bovine but duplications of the entire head and neck is uncommon (Dutt *et al.*, 2018) [1]. The present case of monstrosity involving both duplication of head and neck was unique one.

Examination of monster revealed presence of double head with separate neck (Dicephalus Derodymus), two fore limbs, partial duplication of the body, two hind limbs and two tails (Fig.1). Of the all internal organs heart (Fig.2) and lung showed duplication on post-mortem examination. Radiographic examination visualized presence of two separate vertebral Columns (Fig.3). Dystocia due to Dicephalus Derodymus monster were reported by Verma *et al.* (2018) [7] in cow and Dutt *et al.* (2018) [1] in buffalo. Delivery of conjoined twin by caesarean section was reported by Periyannan *et al.* (2021b) [3] in buffalo and per vaginal delivery in cow was reported by Ravikumar *et al.* (2012) [4]. In the present case because of partial fetotomy involving decapitation with trunk the fetal size was reduced and which made possibility of easy pervaginal delivery without damaging the birth canal.

Fig 1: Double tailed Dicephalic conjoined twin with separate neck

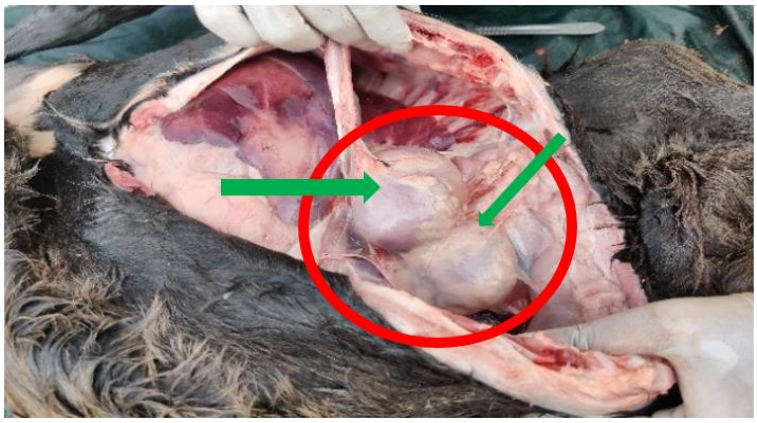

Fig 2: Two separate hearts noticed on post-mortem

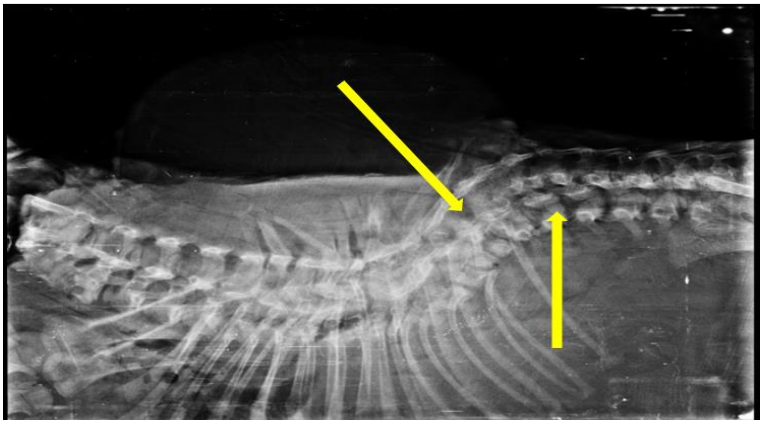

Fig 3: Radiography revealed presence of two vertebrae

Fig 4: Thygesen,s Fetotome with Wire introducer, Handle and Saw wire

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