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Management of dicephalus fetal monstrosity in jersey cattle: Releived successfully by fetotomy

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Abstract
A Clinical case of Foetal Monstrosity in a Crossbred Jersey cattle which was relieved by Fetotomy.

Keywords: Crossbred jersey cattle, dystocia, dicephalus, monster, fetotomy

Introduction
Developmental foetal malformations, such as foetal ascites, foetal monster, and foetal maldispositions, account for 5–10% of the dystocia in cows. Congenital abnormalities and viral diseases are the most frequent causes of foetal monstrosity. (Periyannan *et al*., 2021a) [4]. Ruminants are more likely to have dystocia caused by twin head monsters. (Thangadurai and Selvaraju, 2015) [8]. More often than the caudal half, the cranial portion of the foetus is duplicated. (Roberts, 1971) [7]. From day 14 to day 42 of embryonic development, the embryo is very vulnerable to teratogens; however, as the embryo develops, the effect gradually decreases. (Morrow *et al*., 1986) [3]. However, maternal teratogen exposure, vitamin deficiency (especially vitamin A), genetic factors, and/or combinations of these variables are the main known causes of congenital malformations (Jones *et al*., 1983) [2]. Two different heads (Dicephalus), two forelimbs (Dibrachius), and two hindlimbs (Dipus) are present in the conjoined twins (Roberts, 1971) [7]. A case of a conjoined foetus with Dicephalus monster and its delivery by Fetotomy along with Forced traction.

Case History and Treatment
A 4 years Old Nulliparous Crossbred Jersey cow at full term presented with a history of complete gestation and labour for 18 hours and after the rupture of water bag, there was a delay in the delivery of the foetus. All the physiological indices were normal based on the clinical evaluation. Per-vaginal examination revealed a fully dilated cervix and a double-headed monster with elongated forelimbs that presented anteriorly and longitudinally in the dorso-sacral position. It was decided to deliver the monster through a fetotomy due to the full cervical dilatation. After administering 4 ml of 2% lignocaine hydrochloride as caudal epidural anaesthesia (Xylocaine 2%, German Remedies), the animal was restrained on its sternal recumbency. The loop was created and attached over the monster's left side neck using the wire introducer. After that, a saw wire was threaded through Thygeson's fetotome (Fig:2) to remove the left head, followed by the removal of the right head of the foetus. After thoroughly lubricating the birth canal using liquid carboxymethyl cellulose (CMC powder diluted with water), the foetus was delivered by forced traction. Upon examination, the monster was found to have a double head (Dicephalus), two forelimbs, two hindlimbs, and one tail. (Fig.1) Manual removal of the foetal membranes was done, and the animal was treated with Dextrose Normal saline 3 lit (I.V), calcium borogluconate (Mifex, Novartis, India) 450 ml (i.v), inj. Oxytocin (Evatocin, Neon laboratories) 25 IU (i.m), inj. Enrofloxacin 15 ml (i.m), inj. meloxicam 15 ml (i.m). All medications were given consecutively for 5 days, with the exception of calcium and oxytocin, and the animal recovered without any complications.

Discussion
Twining is not common in cattle, incidence between 2 and 3%, although monozygotic twining occurs at a rate of 0.1% (Verma *et al*., 2018) [9]. In cattle, cranial duplications occur in 75% of conjoined twins while head and neck duplications are rare (Dutt *et al*., 2018) [1]. Verma *et al*., 2018 [9] reported Dicephalus Derodymus monster-related dystocia in cows, and Dutt *et al*.,

2018 [1] reported it in buffalo. Periyannan *et al*., 2021b [5] reported a surgical delivery of a conjoined twin in a buffalo, and Ravikumar *et al*., 2012 [6] reported a vaginal delivery in a cow. In the current case size of foetus was reduced due to partial fetotomy, which involved decapitating the foetal head, making it possible for a simple per-vaginal delivery without causing any damage to the birth canal. So apart for going caesarean section, fetotomy can be a reliable option for dystocia caused due to foetal monsters.

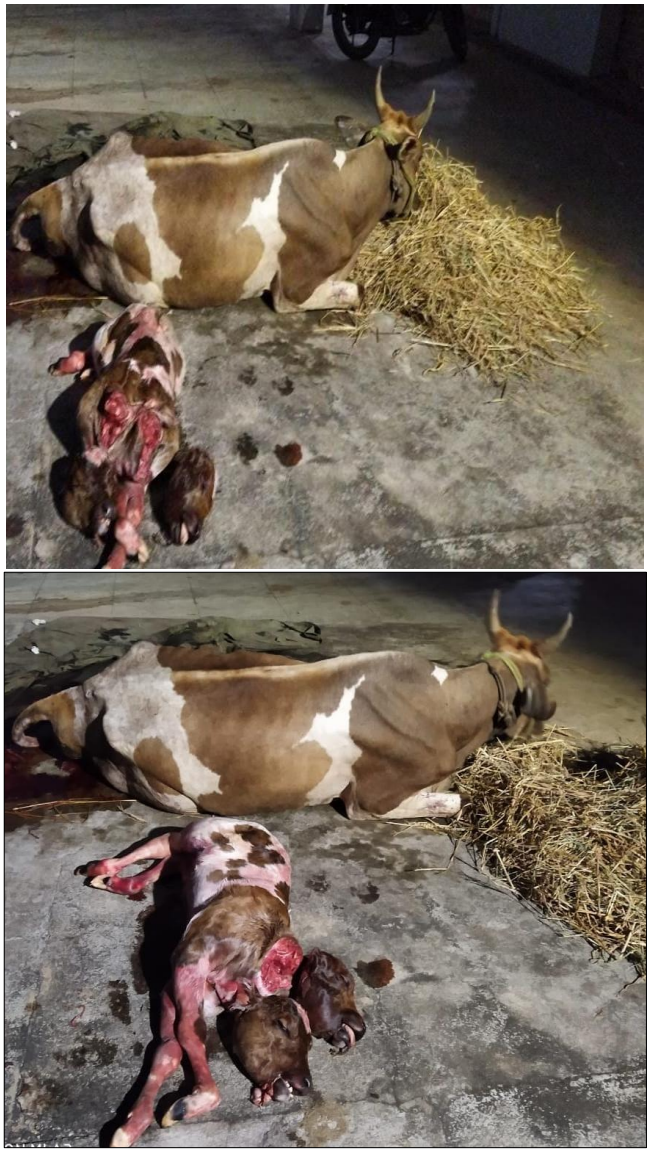

Fig 1: Dicephalus foetal monster after fetotomy

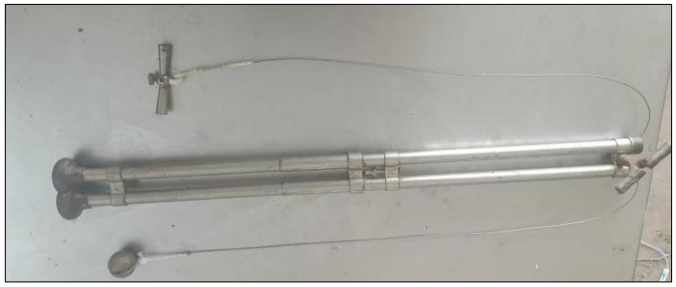

Fig 2: Thygesons fetotome

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