DYSTOCIA DUE TO DIPROSOPUS, TETRAOPHTHALMUS AND MONAUCHENOS MONSTER IN A COW

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Received on: 04.09..2018
Accepted on: 12.11..2018

ABSTRACT

A rare case of male dystotic 'diprosopus monauchenos' is reported in a newborn calf that was alive before caesarean section but was born dead. The 'diprosopus' calf consists of four eyes (tetraophthalmus), two pairs of nostrils, two mouths, each with a tongue and two pinae. The two faces were fused caudally. The front limbs were normal but the hind limbs were ancylosed and flexed.

***Key words*:** Calf, diprosopus, dystocia, monauchenos, monster

Introduction

Congenital defects are structural or functional abnormalities and can affect an isolated portion of a body system, entire system or parts of several systems and may cause obstetrical problems (Long, 2001). Duplication of the cranial portion of the foetus is more common than that of the caudal portion. The most of human and animal developmental malformations are because of a multi factorial etiology (Mazzulo *et al.*, 2003). Congenital defects are caused by genetic or environmental factors (infectious diseases, viruses, drugs, poisonings, plants, mineral salts and vitamins (A, D, E) deficiency, hormonal factors and physical reasons) or by their interactions (Kacar *et al.*, 2008). Conjoined twins, considered to be monozygotic twins imperfectly separated, from a graded series of slight duplication to almost separated individuals and occur extremely rarely in horses, occasionally in dogs and cats, and uncommonly in cattle, pigs and sheep (Fischer *et al*., 1986; Leipold *et al*., 1972). The diprosopus, craniofacial duplication, abnormality, characterized by the presence of 2 faces with a single head on a single trunk, is one of the rarest craniofacial malformations and a rare form of conjoined. A rare case of 'diprosopus monauchenos' is reported in a newborn

Fig. 2: The Diprosopus head of foetus with tetraophthalmus and monauchenos condition

Fig. 1: Caesarean section of cow to relive dystocia

Fig. 3: Diprosopus calf with flexed hind limbs.

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brown calf that died just before caesarean section.

Case history and observations

An eight-year-old indigenous cow with normal gestation was presented to the Teaching Veterinary Clinical complex R.S. Pura Jammu. The animal was presented with complaint that in spite of consistent straining for the previous eight hours after the expulsion of the first water bag, there was no progression to second stage of labour. The animal was attended by the local Vet but attempt was futile. Obstetrical examination revealed presence of abnormal foetus one enlarged head with two faces joined at around 110^{o} (Fig. 2) to each other in anterior longitudinal presentation, dorso-sacral position with right forelimb in birth canal and left one outside the birth canal. Lubrication by carboxy methyl cellulose and fetotomy was attempted but revealed no success as space was less due to severe inflammation of the genital tract; therefore caesarean section (Fig.1) was carried out. A stillborn diprosopus calf was delivered (Fig. 3).

Treatment and Discussion

The caudal epidural anaesthesia was given using 7 ml of 2% lignocane hydrochloride and per vaginal examination was made that revealed full cervical dilation and a live foetus with one enlarged head with two faces joined at around 110^{o} to each other in anterior longitudinal presentation, obstructing the birth canal with one extended limb in birth canal and other leg flexed inside the uterus.

Foetal reflexes were present on first pervaginal examination but upon 2nd and 3rd examination 10 minutes apart, the calf shows no such reflexes indicating death of foetus by asphyixation. After profuse lubrication of birth passage with 7 litres of carboxy methyl cellulose gel, foetotomy of one face was attempted with the help of Thygeson's foetotome to relive dystocia but revealed no success due to less space for manoeuvring and finally caesarean section was performed under local anaesthesia. External inspection of the foetus revealed a full term male calf with normal structures of the trunk, tail and forelimbs while as both hind limbs were flexed at all joints. The monster was a (Fig. 2) male dystotic 'diprosopus (two faces) monauchenos (one neck)' with four eyes (tetraophthalmus), two pairs of nostrils, two mouths, each with a tongue and two pinae. The degree of facial duplication varies from a partial doubling of the nostrils, upper jaw to a complete duplication of the face and formation of two mouths, four eyes and four ears. Partial diprosopus is associated with fewer malformations, and the prognosis is better than that of complete diprosopus (Wu *et al*., 2002).Complete diprosopus in different German breeds of calves is reported by Schulze *et al*. (2006).

Wu *et al.* (2002) stated that the pathogenesis of diprosopus monauchenos involves duplication of the notochord, while incomplete division of the zygote at late stage of embryonic development may result in congenital duplication like diprosopus (Noden and De Lahunta, 1985).

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