

ATYPICAL CYCLOPIA IN A BUFFALO CALF

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ABSTRACT

The present communication reports an unusual case of dystocia in a buffalo due to a cyclopic calf. The case was successfully managed by caesarean section without any post-operative complications.

Keywords: cyclopia, dystocia, buffalo calf

INTRODUCTION

Cyclopia, or cebocephalus, is a congenital anomaly characterized by a single orbit in which the global tissue is either absent or rudimentary; two eye balls are incompletely fused or there is a single median eye (Roberts, 1971). Cyclopia has been recorded in sheep (Bryden *et al.*, 1971), goat (Sivasudharsan *et al.*, 2010), cows (Gupta and Anand, 2002; Ozcan *et al.*, 2006). However, this anomaly has been rarely reported in buffaloes (Thippeswamy *et al.*, 1996). This paper puts on record of a rare case of dystocia in a Murrah buffalo, caused by a fetus with an atypical form of cyclopia.

HISTORY AND OBSERVATIONS

A primiparous Murrah buffalo was presented with the history of full-term pregnancy with the complaint of dystocia for the previous 10 h. Pervaginal examination revealed complete dilatation of cervix along with a foetus in anterior presentation with an enlarged head firmly stuck in the birth canal. Further attempts to relieve dystocia by repulsion and traction failed and thus, decision was taken to remove the foetus by caesarian section through lower flank laparohysterotomy under local infiltration analgesia with 2% lignocaine. Post-operatively, the animal was given 5 litres of 5% dextrose saline intravenously, enrofloxacin 20 ml intramuscularly for five days and meloxicam 15ml intramuscularly for three days.

RESULTS AND DISCUSSION

A normal-sized male calf was delivered with the presence of a single orbit in the middle of a spherically enlarged head. Examination of the orbital cavity revealed that eye globe was replaced by fatty tissue surrounded by rudimentary eyelids. The nasal region and anterior nares appeared

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to be poorly developed with a single opening. Upper lip appeared like a thin fold of skin with complete absence of muzzle. The upper jaw was short and did not extend to the level of the lower jaw (Brachygnathia superior) along with absence of dental pad and incisor teeth. A deep fissure in the hard palate communicating with nasal cavity was observed on examination of oral cavity. The ears were absent and the external meatus were completely blind (Figure 1).

An abnormal foetus arises when a threshold of genetic and environmental insults is reached and the fetal compensatory mechanisms are overwhelmed. The lack of uniform chromosomal findings in various human cyclopic subjects suggest that factors other than cytogenetic imbalance like gene mutation and environmental agents may be of primary etiologic importance (Cohen, 1966). The single median eye is the result of fusion of two optic grooves in the midline of two eye forming units (Adelmann, 1929) due to defective development of ventral diencephalon (Garzosi *et al.*, 1985). Binns *et al.* (1963) studied this malformation in newborn lambs in a flock of sheep and stated that this anomaly arises due to

ingestion of *Veratrum californicum* in pregnant ewes. According to Roberts (1971) the period of embryo and embryogenesis in bovines is the 12th to 45th day of gestation and this duration represents the most susceptible period for teratological insult. In the present case, the dam might have been exposed to teratogens during the early gestation leading to the cyclopic condition in the calf.

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Figure 1. Cyclopia with cleft palate in a buffalo calf.

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