

Case Study

<https://doi.org/10.20546/ijcmas.2019.804.348>

## Dystocia due to a Dicephalus Monster Fetus in Holstein Friesian Cow

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### ABSTRACT

#### Keywords

Double headed,  
Dystocia,  
Dicephalus,  
Monster

#### Article Info

Accepted:  
20 March 2019  
Available Online:  
10 April 2019

A Holstein Friesian cow with prolonged labour since 15 hours was presented. On clinical and per vaginal examination it was diagnosed to be double headed monster fetus. Presence of palpebral and slight suckling reflex revealed the fetus as alive. Monsters or foetal anomalies are most common cause of dystocia in all farm animals and is quite common among cows of crossbred origin. A successful delivery of a double headed monster fetus through Caesarean section is recorded.

### Introduction

A monster is a malformed fetus. Fetal anomalies and monstrosities are common cause of dystocia in bovines (Shukla *et al.*, 2007). Dicephalus monsters have been reported in goats (Pandit *et al.*, 1994), buffaloes (Bugalia *et al.*, 2001; Srivastva *et al.*, 2008; Kumar *et al.*, 2014) and cows (Patil *et al.*, 2004; John Abrahan *et al.*, 2007; Chauhan *et al.*, 2012). Congenital defect present at birth-the abnormality of structure or function and they may affect a single structure or function, an entire system, part of several

systems or a structure and a function (Morrow, 1980). Duplication of embryo is a congenital problem of embryo which is caused by imperfect/incomplete twinning/duplication of germinal area forming partially or completely duplicated body structures (Roberts, 1971). These duplications may arise during the primitive streak elongation or regression (Noden and Lahunta, 1984). They are usually associated with either with infectious diseases or congenital defects (Arthur *et al.*, 2001) and may or may not interfere with birth (Sharma *et al.*, 2010). Monstroglia in bovine often

leads to dystocia and caesarian section is the most common sequelae (Sharma, 2006). It is important to know various types of monsters which cannot be removed without Caesarean section most of the time (Gupta *et al.*, 2011).

### **Case history and clinical observations**

Five year-old primiparous Holstein Friesian cow at full term was presented by farmer of Narangi Tiniali, Guwahati, Assam. 15 hours after the onset of straining and rupture of water bag. Unsuccessful attempts were made by local animal health workers to deliver the fetus. On clinical examination the rectal temperature was 102.7<sup>0</sup>F, heart rate and respiration were found within the normal limit. Per-vaginal examination revealed the distorted foetal head in the vaginal passage with foul smelling discharge. On thorough

animal examination, the foetus was found to have two heads joined at neck in anterior longitudinal presentation, dorso-iliac position with both the fore limbs retained against dorsal border of the vagina and presences of palpebral and slight suckling reflex revealed the fetus as alive. Thus making per-vaginal delivery was not possible. Caesarean section was next option left out. The fetus was diagnosed to be double headed monster (Fig. 1).

### **Results and Discussion**

Caesarian section was performed under high caudal epidural anesthesia combined with local infiltration anesthesia achieved by using 2% lignocaine solution on left ventro dorsal site adopting standard protocol as per Noakes *et al.*, (2009).

**Fig.1** Double headed monster of Holstein Friesian calf



Location of uterus was traced, incised on the greater curvature of uterus and away from caruncles. A double headed foetal monster was removed by grasping hind limbs. Uterus was then closed using lambert sutures after

flushing with Metronidazole. Peritoneum, muscle and skin were sutured in the routine manner after flushing peritoneal cavity with metronidazole solution. Animal was administered with inj. cefaperazone salbactam

combination 5 gm I.V for 5 days, Inj. Flunixin meglumine 2.2 mg/kg b.wt I.V route, once daily for 5 days and Inj. chlorpheniramine maleate 15 ml. inj. Ringer's Lactate (4 litres), inj. Normal saline (2 litres) and Supportive medication continued for 5 days. Antiseptic dressing was done on alternate days using povidone Iodine. The sutures were removed on 10<sup>th</sup> days of the caesarean section. The fetus had two fully developed heads on single neck of the head was aligned with the cervical vertebrae. Both the heads had separate ears but the pinnae of the medial ears were fused at the base with separate nostrils two eyes (*tetraophthalmus*) and two ears. The neck, thorax, abdomen and limbs were grossly normal. Postmortem examination of the fetus revealed that structures were duplicated up to pharynx whereas there was only one oesophagus.

All visceral organs e.g. lungs, heart, liver, kidneys, genitalia were of single fetus and also only one scrotum with two testis was present. Conjoined twins may be caused by any number of factors, being influenced by genetic and environmental conditions. It is presently thought that these factors are responsible for the failure of twins to separate after the 13<sup>th</sup> day after fertilization (Rai *et al.*, 2018; Srivastva *et al.*, 2008). Jones and Hunt (1983) stated that many congenital anomalies are essentially unknown; however, the important known causes are prenatal infection with a virus, poisons ingested by mother, vitamin deficiency (Vitamin A and folic acid), genetic factors and/or combination of these factors.

According to Dennis and Leipold (1986) possible reasons for the congenital abnormalities could be variable, which includes genetics, plant toxin, microbial agent, drugs and mineral deficiencies and other physical causes such as radiation and hyperthermia.

After laprotomy the double headed monster was delivered successfully which remain alive for around eight hour and then died due to sudden asphyxiation.

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**How to cite this article:**

Chiranjeevi Acharya, Manoj Kumar Kalita, Nipendra Mahanta, Bijoy Chhetri and Utpal Barman. 2019. Dystocia due to a Dicephalus Monster Fetus in Holstein Friesian Cow. *Int.J.Curr.Microbiol.App.Sci*. 8(04): 3024-3027. doi: <https://doi.org/10.20546/ijcmas.2019.804.348>