



## DYSTOCIA DUE TO SYNCEPHALUS TETRABRACHIUS TETRAPUS DICAUDATUS CONJOINT MONSTER IN A MURRAH BUFFALO

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### ABSTRACT

A case of dystocia due to a syncephalus tetrabrachius tetrapus dicaudatus conjoint monster in a Murrah buffalo relieved by emergency caesarean section is reported.

**KEY WORDS:** Buffalo, Conjoint, Dicaudatus, Dystocia, Monster, Syncephalus, Murrah

### INTRODUCTION

Congenital malformations represent a hidden danger for animal production and are responsible for economic losses either because they reduce the productivity of the farm, or because their spread in the population would decrease the total productivity of that species/breed (Albarella *et al.*, 2017). The congenital diseases are structural or functional anomalies are present at the time of birth due to different etiology causes such as genetic, environmental factors and infections. These developmental defects leading to anomalies or monstrosities often result into dystocia. About 1.78% of dystocic deliveries from fetal causes are due to fetal malformations (Purohit *et al.*, 2012). The origin of monozygotic conjoined twins which share a single common chorion, placenta, and amniotic sac could be, a) partial splitting of fertilized egg, and/or b) complete separation of fertilized egg, but stem cells of fetus are able to find like stem cells on the other twin leading to fusion of twins together (Cordero *et al.*, 2005). For the obstetrical management of conjoined twins, delivery by cesarean section is usually undertaken (Singh *et al.*, 2013).

### CASE HISTORY AND OBSERVATIONS

A pluriparous water buffalo (OPD No. E-6-1081 dated 07.06.2018) at full term with second parity hours was brought to Veterinary Clinical Complex for relief from dystocia. History revealed that the case was attended by local veterinarian 8 hours back and amputation of two hind limbs had been carried out but failed to deliver the fetus after that. The animal was recumbent with tachypnea. The temperature was 102.5°F. Pervaginal examination revealed fully dilated cervix with presence of two forelimbs in birth passage. Since the animal was already exhausted and lack of sufficient lubrication, an emergency caesarean section was planned.

### TREATMENT AND DISCUSSION

As the general condition of animal was not good, the pre-medication was done to stabilize the animal with normal saline, antibiotics (inj. Cefoperazone plus sulbactam 4.5 g I.M), antipyretics (inj. Flunixin meglumine 1000mg I.M), antihistaminics (inj. Chlorpheniramine maleate 227.5 mg I.M) and metronidazole (2500 mg/500ml I.V). Following improvement in general condition, animal was prepared for caesarean section through ventro-lateral approach *i.e.* parallel to milk vein, in her right recumbency. Following aseptic preparation of the operative field, a 12 inch long incision was made to open the abdomen. Bleeding was controlled successfully with artery forceps, ligation and anticoagulants in each and every step according to the intensity of bleeding from different structures. A careful dissection of skin, muscles and peritoneum exposes uterus. Following opening of abdominal cavity, uterus was exteriorized and a monster was removed (Fig.1). Uterus, peritoneum, abdominal muscles and skin were sutured in routine manner. Following operative procedure animal was administered with inj. Oxytocin 50 I.U. in 500ml Normal saline I.V. and Ca-Mg-Borogluconate 450 ml slow I.V. Further treatment was advised for six days and included inj. Cefoperazone plus sulbactam 4.5 g I.M, inj. Flunixin meglumine 1000mg I.M, inj. Chlorpheniramine maleate 227.5 mg I.M. and inj. metronidazole 2500 mg/500ml I.V. Antiseptic dressing of the surgical wound was advised daily and skin sutures were removed on the day 12 post-caesarean section.

### DESCRIPTION OF FETUS

Gross examination revealed- two fetuses joined externally over the sternum and duplication of the body caudally, eight legs (of which two had been amputated at field level), fusion of two completely developed heads and ventral surfaces of necks; four eyes, four ears, two tails etc. Both the fetuses were of female sex. All these findings described the conjoint twins as syncephalus tetrabrachius

tetrapus dicaudatus conjoint monster. Between the areas of fusion of two foreheads one underdeveloped dental pad

and mandible was present having a tongue without oral cavity.

**TABLE 1:** Post mortem findings in the monster

Internal organs	Foetus - I	Foetus - II
Tongue	Present	Present
Trachea	Present	Present
Oesophagus	Present	Present
Lungs	Present	Present
Heart	Present	Present
Spleen	Present	Present
Liver	Present (Hepatomegaly)	Present
Kidneys	Present	Present
Intestines	Present	Present



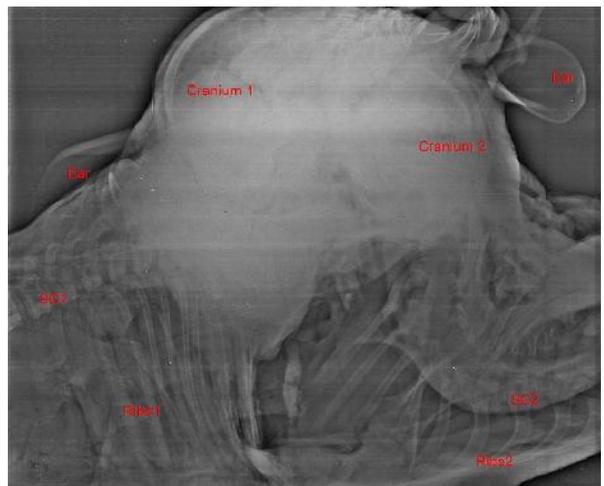
**FIGURE 1:** Syncephalus tetrabrachius tetrapus dicaudatus conjoint monster



**FIGURE 2:** Pair of lungs and heart



**FIGURE 3:** Hepatomegaly (H) and normal (N) fetal liver



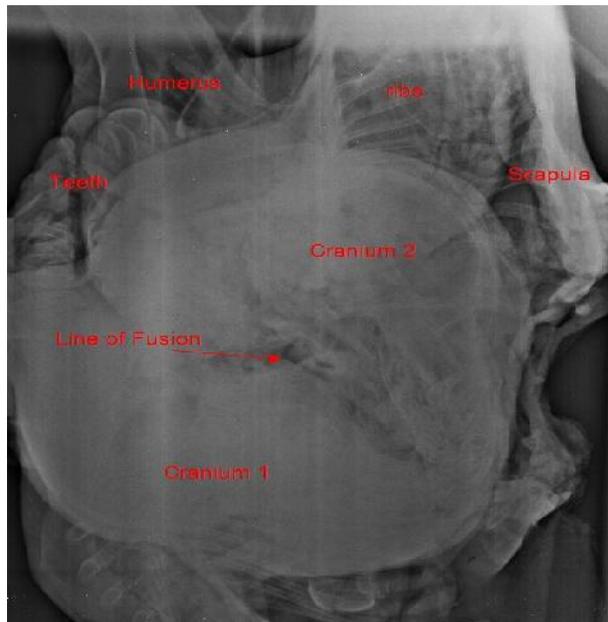
**FIGURE 4:** Fusion of both the fetuses at cranium

Radiographic examination of the monster was conducted which revealed two necks and fusion of both the fetuses at the level of cranium (Fig. 4) and the line of fusion was clearly demarked (Fig. 5). There was no fusion of sternal bones of both the fetuses (Fig. 6) However; externally both the fetuses were completely fused by means of soft tissues. Post mortem examination of the monster was also conducted and the findings are listed in Table 1.

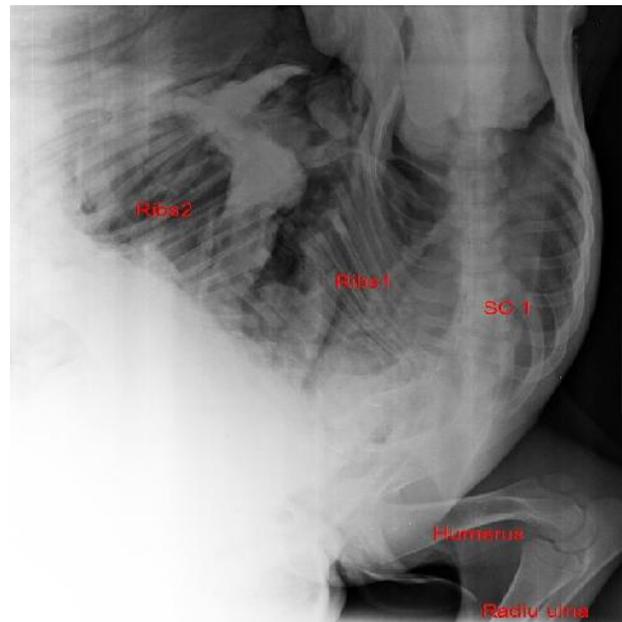
The pre-natal developmental defects lead to anomalies or monstrosities and dystocia is the resultant. Conjoined twins are also known as diplopagus monsters or Siamese twins. These twins arise due to incomplete division of one embryo into two components usually at the primitive streak development state (Noden and Delahunta, 1985) and show great variation from partial duplication to almost complete separation of two individuals, joined in just a few places. The conjoint twins have been reported by

Dhami *et al.* (2000), Singh *et al.* (2013), Singh *et al.* (2016), Patel *et al.* (2017) and Srivastava *et al.* (2018). A similar case of dystocia due to syncephalus tetrabrachius tetrapus sternopagus dicaudatus monster in ewes has been reported by Chandolia *et al.* (2009). The findings of the

present case study suggested that performing a caesarean section in buffaloes with dystocia due to fetal monstrosities may be considered as a wise decision for better outcome of the case.



**FIG. 5:** Line of fusion at the level of cranium



**FIG. 6:** Absence of sternal fusion of both the fetuses

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