

## CASE STUDY

# Surgical Management of Dystocia in Non-Descript Cow due to Sterno-Omphalopagus Conjoined Twin

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### ABSTRACT

*A non-descript pluriparous cow developed dystocia before the actual completion of gestation period. Per-vaginal examination revealed the presence of four hindlimbs in birth passage. Deeper exploration led to palpation of two hindquarters which appeared to be fused at abdomen. Findings suggested some fetal monstrosity and a decision to perform an emergency caesarean section was taken which resulted in delivery of sterno-omphalopagus conjoined twins.*

**KEY WORDS:** Cow, Caesarean section, Conjoined twins, Dystocia

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### INTRODUCTION

Conjoined twins are reported to be one of the most common causes of dystocia in bovines. Conjoined twin is resulted from incomplete subdivision of embryonic axis that occurs at a relatively later phase of development [1]. The types of twins may differ depending upon the site of fusion and non-separation. Monsters consisting of two or more fetuses joined together are common in bovines as compared to other species [2]. Structural duplication during the embryonic stage give rise to fetuses whose body structures are partially but not completely duplicated [3]. For the obstetrical management of conjoined twins, delivery by caesarean section is usually undertaken [4]. The present communication reports dystocia in a cow due to sterno-omphalopagus conjoined twin monster which was relieved through caesarean section.

### CASE HISTORY AND OBSERVATIONS

A non-descript pluriparous cow was presented with dystocia, twenty days before the actual completion of gestation period at University Veterinary Hospital. As per history provided by owner, cow was in fourth parity with previous three normal parities. Water bags had ruptured twelve hours ago and animal was straining with unsuccessful delivery attempts. Case was not handled at field level. Upon physical examination, basic parameters such as respiration, pulse and temperature were found in normal range. Per-vaginal examination revealed the presence of four hindlimbs in the birth canal. Deeper exploration led to palpation of two hindquarters which appeared to be fused at abdomen. Keeping some fetal monstrosity in consideration, it was decided to perform an emergency caesarean section to relieve dystocia.

### TREATMENT

Caesarean section was performed under local infiltration anaesthesia (Lignocaine hydrochloride 2%, 80 ml) in right lateral recumbency using oblique Paramedian approach and a dead conjoined twin monster fetus was delivered. After delivery, it was found that conjoined twin was of female sex having complete fusion from sternum to abdomen (Fig.4). It had one abnormally formed small head, two pair of fore limbs, two pair of hind limbs and two tails. Accordingly, it was named as sterno-omphalopagus tetrabrachius tetrapusdicaudatus (Fig.1).

Post mortem examination of monster fetus revealed complete duplication of visceral organs with two pair of lungs, two pair of kidneys, two hearts, two liver, two spleen and two complete sets of digestive organs (Fig.3). There was a fair evidence of hydronephrosis in both pair of kidneys and fatty changes in both

livers with left fetal liver being extremely hypoplastic. There was no evidence of atresia ani. Two separate vertebral columns from both the twins communicated with a single abnormally formed small cranial cavity. Head was abnormally developed lacking distinct mouth parts along with complete exophthalmia of one eye (Fig. 2). Post-operative treatment included fluid therapy, antibiotics, anti-inflammatory cum analgesics, rumenotronics and multivitamins for the next five days.



Fig 1. Sterno-omphalopagus conjoined twin



Fig 2. Abnormal head with Exophthalmia

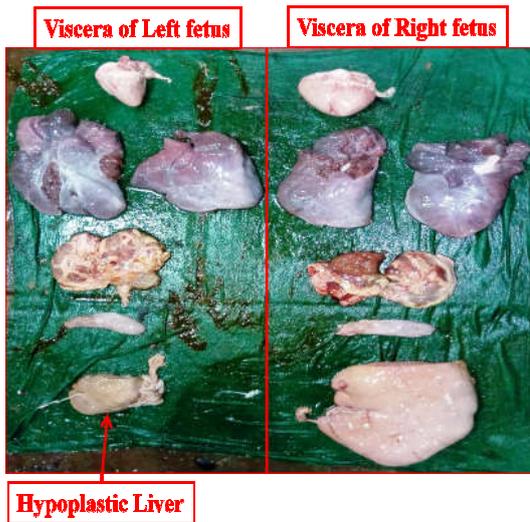


Fig 3. Duplication of visceral organs

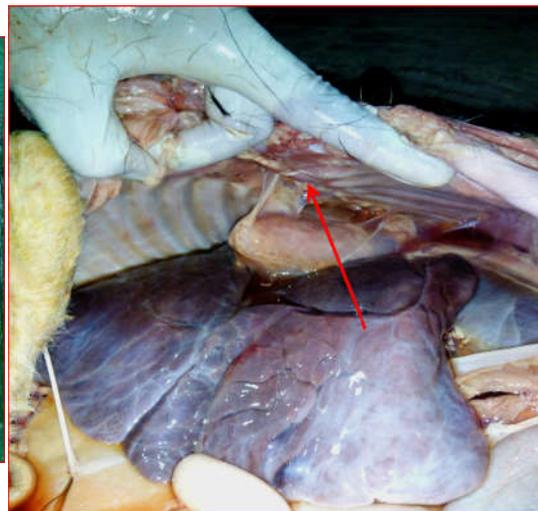


Fig 4. Fused sternum

**DISCUSSION**

Studies on cattle indicate that the fetus is the major cause of dystocia [5] and cows with twins have a shorter gestation length and more dystocia (6). Moreover, mild developmental abnormalities of the ovum, embryo or fetus result in structural abnormalities in the fetus leading to monstrosities and the incidence of these monstrosities reported for cow is 0.5% (7). Conjoined twins are most common kind of monsters and are also known as diplopagus monsters or siamese twins. These conjoined twins are usually monozygotic in origin and occur due to incomplete division of one embryo into two at the primitive streak of developmental stage [8]. These might arise due to genetic and environmental factors. Major etiological factor leading to bovine conjoined twins are non-inherited defects [3] as in this case having no history of any fetal monstrosity in previous parities. While relieving dystocia, it is important to know the type of monstrosity that is causing dystocia as the normal vaginal delivery of such cases may become difficult. Thus, Caesarean section proves to be a better approach to save the life of dam and to decrease suffering that may otherwise occur during per-vaginal delivery.

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