CONJOINED TWIN CALF IN A BUFFALO

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ABSTRACT

The present case was a conjoined female twin calf joined at thorax having symmetrical two heads, two necks, four forelimbs, two hindlimbs, single belly, distally separated two tails and single vulva (Dicephalus dipus tetrabrachius). When skin was incised and thoracic and abdominal cavities were opened, partial bifurcation of thoracic to lumbar vertebrae was observed. There were incompletely doubled lungs and hearts. The two esophagi joined the common gastrointestinal tract. The urogenital system was single.

Keywords: Buffalo, conjoined twin calf

History and clinical findings

An adult buffalo at its 3rd calving was reported for correction of dystocia at Mohallah Warispura, Faisalabad. The buffalo expelled water bag about six hours ago. Since then she was continuously straining but there was no delivery of foetus. The buffalo was registered as an ambulatory case in the clinic of the Department of Animal Reproduction, University of Agriculture, Faisalabad. Physical examination of the animal was conducted at the owner's house. The animal was dull and fatigued looking. There was slight dyspnoea due to drenching of some home made decoctions. The body temperature was 102°F. On vaginal examination, slight lacerations were noticed as the case was prehandled by some layman. The cervix was fully dilated with the head and two forelimbs engaged in the birth canal. Thorough examination revealed that it was a case of conjoined twin calf. Head of one fetus was deviated laterally. Out of forelegs present in the birth canal, one was of the one fetus and the other of second twin. One forelimb of each conjoined twin was flexed at knee joint.

Treatment

First of all animal was toned up through intravenous administration of Calciject (Norbrook Labs. UK) 400 ml, Bejectil-T (Abbot Labs. Pakistan) and 5% Dextrose (Siza Intl. Lahore, Pakistan) 1000 ml. As it was not convenient to perform cesarian section at that place and per vagina delivery was possible, it was decided to perform forced traction. For this purpose the animal was properly restrained and one litre of rapeseed oil mixed with three litres of lukewarm water was introduced into the uterus with an irrigator for thorough lubrication. Correction of deviated head and flexed fore limbs was done by repulsion and traction method. Two forelimbs one for each fetus present adjacently were tied with a single chain and the other two forelimbs were secured by individual chains. Two separate chains were applied on the neck of each twin calf. A long hook was applied in the orbit of each twin calf during forced traction. Repeated repulsions and tractions alongwith repeated application of rapeseed oil as lubricant were attempted to deliver the conjoined twin calf out. After forced traction of the twin calf the animal was checked thoroughly for any rupture or severe lacerations but no rupture or severe lacerations were noted.

Detailed examination of monster revealed that it was a conjoined female twin calf joined at thorax having symmetrical two heads, two necks, four forelimbs, two hindlimbs (Plate 1), single belly, distally separated two tails and single vulva (Plate 2).

When skin was incised and thoracic and abdominal cavities were opened, partial bifurcation of thoracic to lumbar vertebrae was observed. There were incompletely doubled lungs and hearts. The two esophagi joined the common gastrointestinal tract. The urogenital system was single.

Immediately after delivery the animal was injected intramuscularly with 5gm Penbiotic (Nawan Labs, Karachi, Pakistan), 40 mg Decadron (MSD, Pakistan) and 100 I.U. Oxytocin (Venus Pharma, Lahore, Pakistan). Burnol (Boots Labs, Pakistan) ointment was pasted in the vagina. One hour after delivery the animal expelled its placenta. Five grams Penbiotic and 50 ml of distilled water were infused intrauterine after expulsion of placenta. On 2nd day animal was good looking and 400 ml of Calciject I.V.,

1000 ml of 5% dextrose I.V., Avil (Hoechst Marion, Pakistan) 25 ml I.M., and Penbiotic 5g I.M., were administered. Intrauterine infusion was also given and pasting of Burnol in the vagina was done. Owner was advised to continue Penbiotic and pasting of Burnol for another three days.

Plate 1: Anterior view of buffalo conjoined twin calf (four forelimbs, double head and neck)

Plate 2: Posterior view of buffalo conjoined twin calf (two hind limbs and distally separated tail)

DISCUSSION

The present case was a conjoined female twin calf (Dicephalus dipus tetrabrachius). Easton (1985) has reported a similar case of a two headed calf having doubled necks, externally normal forelimbs and thorax, incompletely doubled hearts and lungs, and a persistent sinus venosus, with abnormal pulmonary and systemic circulation. Conjoined twin calves have also been reported by Hirsch *et al.* (1982), Amaitari (1986), Mee (1992) and Madarame *et al.* (1994) in cattle. Hancock (1954) and Arthur (1956) observed that conjoined twin calves occurred about once in 100,000 bovine births. Conjoined twins occur rarely in sheep, pigs, dogs, cats and exceedingly rare in horses (Robberts, 1971). According to Ursell and Wigger (1983), incomplete fission of the primordial cell mass is generally believed to be the cause of conjoined twinning. It also explains the tendency towards increased symmetry in these twins. However, Easton (1985) observed that partial twinning involved the development of the notochord as an anteriorly branched structure, with retention of the single condition posteriorly. It was proposed that anteroposterior compression of the embryonic disk could have induced the formation of double notochords.

The most important point to be reported is the per vagina delivery of the intact twin without harm to the dam. Generally, is considered impossible without foetotomy or caesarian section. Foetotomy including evisceration is usually indicated to reduce the size of the monster to the point where the foetotome wire may be placed around conjoined twins at the point of attachment and separate them for removal (Roberts, 1971). Conjoined twins with varying degree of fusion generally require caesarian delivery unless only head is duplicated (Arthur *et al.*, 1989).

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