

MONOCEPHALIC THORACOPAGUS CONJOINED TWIN IN A EWE**P.KUMARESAN, R. ANIL KUMAR*, R.EZAKIAL NAPOLEAN, S.MANO HARAN,
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ABSTRACT

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A case of monocephalic thoracopagus conjoined twin lamb in a Mecheri ewe was reported.

Key words: Monocephalus, Thoracopagus, Tetrabrachius, Tetrascelus, Conjoined lambs

INTRODUCTION

Conjoined or fused twin arise from incomplete division of single embryo during primitive streak stage (Hiraga and Dennis, 1993). The defects present in conjoined twins may range from minor duplications to near complete separation. Congenital duplication is most commonly reported in cattle (Corbera *et al.*, 2005) but has also been reported in dogs (Nottidge *et al.*, 2007) goat (Corbera *et al.*, 2005) and Sheep (Dennis, 1975; Omobowale *et al.*, 2014). The present case report describes the morphological features of monocephalic twin fetus with failure of separation at the level of thorax and caudal separation into two individual lambs.

CASE HISTORY AND OBSERVATION

A Mecheri ewe aged three years on its second gestation was presented with 6 limbs protruding from the vulva to the Teaching Veterinary Clinical Complex, with the history of difficulty in parturition. The ewe was treated by local Veterinarian earlier. On examination two hind limbs with pelvis and four fore limb were presented at the vulva. All fore limbs were repelled back into the uterus leaving only the hind limb outside the vulva. On palpation we found only one head deviated ventrally, four limbs emerging from the thorax and two more hind limbs with fully formed pelvis.

TREATMENT AND DISCUSSION

The two pelvic limbs presented outside the uterus along with the pelvis were amputated. The fetus was rotated inside the uterus, the deviation of the head and neck corrected and the fetus was delivered by mild traction.

On visual examination the fetus delivered was a conjoined twin with a single head, four ears, conjoined at thoracic region, with four thoracic limbs, two distinct pelvises each with one pair of normal hind limbs (Figure 1). The ewe was treated with antibiotics, anti-inflammatory and analgesics. The treatment was continued for 3 days and the dam had an uneventful recovery.

The fetus delivered was a conjoined female lamb. On physical examination the lambs had a single head with four ears. One ear on left and right side of the head and a pair of fused ears was located on the postero-dorsal border of the head and had no patent auditory meatus. The lambs are conjoined at thorax with four limbs on either side (Tetrabrachius). The thorax appeared to be unique had two sternum, single trachea and oesophagus, two hearts, and two lungs. The trachea bifurcated near the heart into two separate sets of lungs. The abdominal cavity was clearly duplicated with two stomachs, with the oesophagus bifurcating near the diaphragm and opening separately into two stomachs. Two distinct pelvises with one pair of normal hind limbs were observed. Each lamb had a separate stomach, spleen,

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liver, colon, rectum, kidneys and uterus. However, all abdominal organs except one left kidney in the left fetus was fully formed and bigger in size than right side fetus.

Based on the classification of Noden and Lahunta, (1985) and based on the area and shape of the fusion the fetus was classified as *monocephalic thoracopagus, tetrabrachius and tetrascelus* conjoined twins. Failure of separation in sheep is most commonly observed in the cranial region, whereas, in cattle the defect is most typically in the caudal region. In sheep the condition typically occur in male lambs and is frequently associated with atresia ani (Dennis, 1975). The case defined in this report involves female lambs with failure of separation involving the thorax and head leading to duplication of abdominal and pelvic portion of skeleton and associated organs. The lack of cephalic duplication is rare and has been reported in male lambs by Spiers *et al.*, (2010).

Congenital defects are induced by genetic, environmental factors, infectious disease, viruses, drugs, poisoning, plants, minerals and vitamin (A, D and E) deficiency, hormonal failures and physical injury (Dennis and Leipold, 1986). The causes of conjoined twins have still not been clearly elucidated.

REFERENCES

Corbera, J.A, Arencibia, A., Morales, I. and Gutierrez, C. (2005). Congenital duplication of the caudal region (monocephalus dipygus) in a kid goat. *Anat. Histol. Embryol.* **34**:61–63.

Dennis, S.M. (1975). Embryonic duplications in sheep. *Aust. Vet. J.* **51**:83–87.

Dennis, S.M. and Leipold, H.W. (1986). Congenital and inherited defects in sheep. In: D.A. Morrow. Ed. *Current Therapy in Theriogenology 2nd Edn.* W.B. Saunders Company, Philadelphia. pp: 864-867.

Hiraga, T. and Dennis, S.M. (1993). Congenital duplication. *Veterinary Clinics of North America: Food Animal Practice*, **9**:145–161.

Nottidge, H.O., Omobowale T.O., Olopade, J.O., Oladiran O.O. and Ajala O.O.(2007). A case of craniothoracopagus (Monocephalus Thoracopagus Tetrabrachius in a dog). *Anat. Histol. Embryol.* **36**: 179-181

Noden, D.M. and De Lahunta, A. (1985). *The Embryology of Domestic Animals: Developmental Mechanisms and Malformations.* Baltimore: Williams & Wilkins, **4**:44–45.

Omobowale, T.O., Igado, O.O., Abiola J.O., Adeniji, S.A. and Omirinde, J.O. (2014). Craniofacial Duplication (Diprosopus) in a Domestic Lamb (*Ovis aries*). *J. Vet. Anat.* **7**: 57 - 61

Spiers, Z.B., Biddle, A.J., Gabor, M.J., Lee, E. and Gabor, E.J. (2010). Monocephalic thoracopagus tetrabrachius in twin lambs. *Can Vet J.* **51**: 1037–1039.

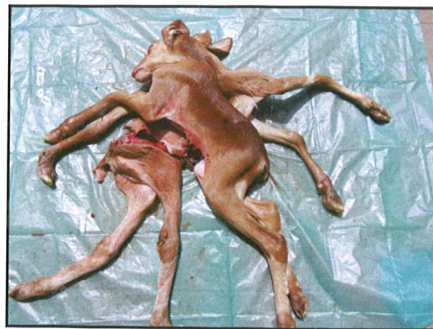


Figure 1. Conjoined twin lamb with a single head, four ears, conjoined at thoracic region, with four thoracic limbs, two distinct pelvises each with one pair of normal hind limbs