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Short Communication

DYSTOCIA DUE TO LIPOMATOUS FETUS ACCOMPANYING WITH MUSCULAR PSEUDOHYPERTROPHY AND DROPSY OF FETAL MEMBRANES IN A BUFFALO

Gyan Singh*, Ravi Dutt[1], S. Patil[1], Vinay Yadav[1], Karan Sharma[1], V.K. Jain

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ABSTRACT: The present case report deals with the per-vaginal delivery of a lipomatous fetus associated with pseudohypertrophy (steatosis) of shoulder and dropsy of fetal membranes in a river buffalo.

Key words: Dropsy, Dystocia, Lipomatous, Pseudohypertrophy, Steatosis.

The rate of congenital musculoskeletal anomalies of thorax and neck is reported as 1.48 births per 10,000 births in cattle (Doyle *et al.* 1990). Muscular pseudohypertrophy due to a localized muscular defect is known as steatosis (Hulland 1993, Valentine and Mc Gavin 2007). Muscular hypertrophy or double muscling is characterized by reduced fat deposit, light bone, thin skin and large muscles and is seen in many breeds of cattle including Harefords, Holstein, Angus and Charolais (Roberts 1971). Deletion mutation in the myostatin or growth and differentiation factor 8 (GDF8) gene causes failure of regulation of muscle fibre deposition (Belling *et al.* 2005) leading to muscular hypertrophy. Double muscling is an inherited (recessive lethal) anomaly, having hypertrophy of muscles, most prominently in the region of the proximal fore and hind quarters (Menissier 1982). The present case report deals with dystocia due to pseudohypertrophy (steatosis) of shoulder and thoracic muscles along with lipomatous abdomen and dropsy of fetal membranes in a water buffalo and its management.

Case history and observation

A pluriparous water buffalo (*Bubalus bubalis*) at full term was referred to the Veterinary Clinical Complex LUVAS, Hisar suffering from dystocia for last 24 hours. The animal was attended by field veterinarian to deliver the fetus with traction, but there was no progress. Clinical observations showed that the animal was having subnormal temperature with recumbency. Per-vaginal examination revealed a dead fetus in posterior presentation with both hind limbs extended in the birth canal. On per-vaginal exploration it was found that fetus was absolutely oversized.

Treatment and discussion

Before the start of obstetrical procedures, the animal was administered 5% Dextrose normal saline, dexamethasone and Calcium-magnesium-boro-gluconate to stabilize the animal's general condition. Obstetrical manipulation was carried out after epidural anaesthesia with 2% lignocaine HCl followed by proper lubrication with liquid paraffin. An incision was made on ventral aspect of the fetal abdomen with the purpose of evisceration. The muscular masses were removed that resulted into marked reduction in the fetal size. After that both hind limbs were secured with obstetrical chains and careful traction of hind limbs led to successful delivery of fetus. There were placental abnormalities and excess thickening with edematous appearance and so the dropsy of fetal membranes (Fig. 1). Further necropsy of fetus revealed lipomatous condition of the abdomen and pseudohypertrophy of thoracic muscles (Fig. 2, 3 and 4).

Department of Veterinary Clinical Complex, [1]Department of Veterinary Gynecology and Obstetrics, College of Veterinary Science, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar -125004, Haryana, India.
**Corresponding author. e-mail: vetgyansaini@gmail.com*

Fig. 1. Edematous thick fetal membranes with leathery appearance.

Fig. 2. Lateral (left) and dorsal (right) views of hypertrophied dorsal thoracic muscles before necropsy.

Unfortunately, immediately after the delivery of fetus excessive quantity of fluid oozed out from the birth canal that confirmed dropsy of fetal membranes and animal died due to shock even though the emergency critical care was provided at the best.

The etiological factors for fetal anomalies/monstrosities can be genetic, environmental or aberrations during early embryonic development. Muscular pseudohypertrophy (steatosis) is a rare case but more often leads to dystocia because of relatively large sized fetus. Fetotomy can be the better choice in such cases of dystocia. The incidence of abnormal calving in buffalo is found between 5.6 to 12.6% in Murrah, 8.94% in Jaffarabadi and between 4.6 to 5.4% in Surti buffalo (Khan *et al.* 2009). There are number of case reports on dystocia due to double muscling/ muscular hypertrophy. They can be successfully treated with fetotomy and mutation techniques (Dutt *et al.* 2018). Simply applying traction without proper examination of fetal morphology may lead to severe damage to the

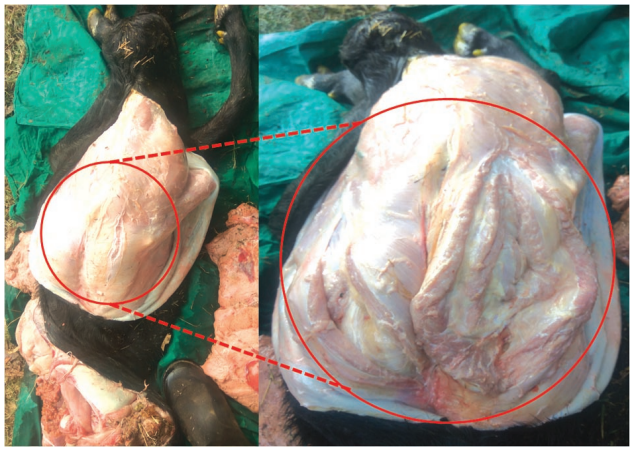

Fig. 3. Double muscling condition observed after necropsy (dorsal view).

Fig. 4. Dam (left) after parturition and its fetus (right) with lipomatosis of abdominal muscles and double muscling of thoracic muscles.

adjoining genitalia, nerve paralysis, bruises, contusions, aberrations, lacerations, hemorrhages or sometimes death of the animal.

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