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Case Report

Dystocia in Rathi cows due to congenital hydrocephalus

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ABSTRACT

Three cases fo dystocia due to congenital hydrocephalus fetus in cows were successfully delivered per-vaginally.

Key words: Cow, hyprocephalus, fetus

Congenital hydrocephalus has been described in various animal species including cattle (Mouli, 1987; Balasubramanian *et al*., 1997; Sharda and Ingole, 2002), buffalo (Bhandari *et al.*, 1978; Bugalia *et al.*, 1990) mare (Sharma, 1996) and camel (Abubakr *et al*., 1998). The condition results in dystocia and the fetuses are delivered by either excision of the head followed by traction (Bhandari *et al.*, 1978) or caesarean section (Balasubramanian *et al.*, 1997; Bugalia *et al.*, 1990). This report puts on record three cases of dystocia in Rathi cows caused by hydrocephalic fetuses that were delivered per vaginum by excision/aspiration of fetal head followed by traction.

The animals involved were three Rathi cows between 5-10 years of age presented to the Veterinary Obstetrics and Gynaecology outdoor with a history of dystocia. In two of the cases, the animals were in second stage of labour since last 2-4 hours when presented. Their water bags had ruptured. On examination, the fetuses were found to be in anterior longitudinal presentation dorso-sacral position with both forelimbs present at the vulva. In the third cow, the fetus was in the anterior longitudinal presentation dorso-sacral position with flexion of one of the limbs and in second stage of labour when presented. In all the three cases, the head of the fetuses were found to be enlarged.

The head of the fetuses of the first two cows were excised with sharp knives to release a large quantity of watery fluid. The fetuses were then delivered with careful gentle traction after proper lubrication (Fig. 1& 2). In the third cow, the flexed limb was extended and the fetus was delivered with difficulty after proper lubrication but

Fig.1 : Congenital hydrocephalus fetus of cow.

Fig.2 : Congenital hydrocephalus fetus of cow.

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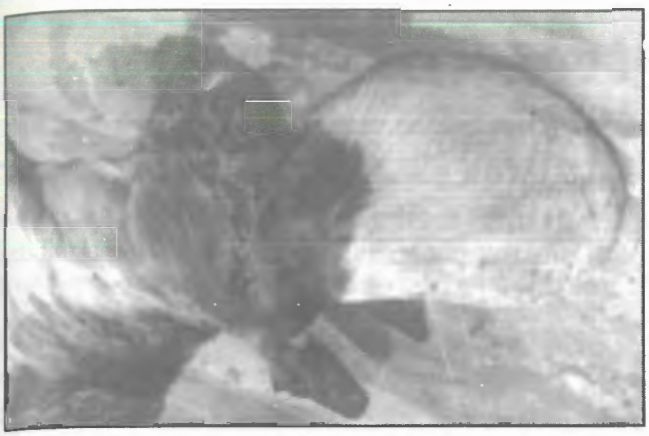

Fig.3 : Congenital hydrocephalus fetus of cow.

without excision of the head (Fig.3). All the three fetuses were dead at the time of delivery. An uneventful recovery was seen in all the three cows following relieving of dystocia. Cows were administered antibiotics via intrauterine rout for 2-3 days post delivery. Enlargement over the head in two fetuses were located in occipital region and excessive accumulation of watery fluid confirmed the condition to be internal hydrocephalus. In the third fetus, the sac of fluid was hanging over the head and on excision, it was found to be in the sub arachnoid space hence this was external hydrocephalus.

Hydrocephalus is assumed to arise from disturbances in normal circulation of cerebrospinal fluid resulting from its altered production or absorption (Fride, 1975). A simple autosomal recessive gene (Roberts, 1986) and autosomal dominant gene with incomplete penetrance (Greene *et al.*, 1973; Leipold and Dennis, 1986) have been reported to be linked with hydrocephalus in cattle. Jubb and Kennedy (1970) and Blood and Handerson (1971) stated that congenital hydrocephalus is known to be inherited in cattle and exacerbated in its manifestation by a coexisting hypovitaminosis.

A compression of the brain occurs in calves with hypovitaminosis-A due to failure of growth and sculpturing of the cranial vault to accommodate the growing brain. Sastry (1971) suggested that external hydrocephalus resulted from either too much fluid formed and not rapidly drained by the arachnoid villi or due to hindrance to the drainage of normally produced fluid. Congenital external hydrocephalus in the form of water sac over the forehead and face is quite rare in animals (Jubb and Kennedy. 1970). The condition appears as a flaccid liquid filled sac covered with skin and contains clear serous fluid as was seen in one of the present case. The enlarged head cannot easily pass through the birth canal and results in dystocia as was seen in the presently reported cases, although sometimes the fetus may be delivered normally and presented later for therapy of the calf (Mouli, 1987).

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