MULTIPLE CONGENITAL DEFECTS IN A NEW BORN CALF
– A REPORT

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ABSTRACT

Congenital anomalies are abnormalities of structure or function present at birth and account for a high percentage of calf mortality from just before to just after calving. A case of hydrocephalus, arthrogryposis conjoined with facial cleft (cleft lip) in a new born Jersey upgraded calf is reported.

Key words: Multiple congenital defect, Calf

Congenital defects in calves are reported in all breeds of cattle often resulting in dystokia (Shukla et al., 2007) with a variation in frequency of occurrence. The etiology of these defects is either genetic (recessive gene) or environmental which includes nutritional deficiencies, endocrine disturbances, extremes of temperature during pregnancy, radiation, drugs, chemicals, toxic plants and infectious diseases (Roberts, 1971).

CASE HISTORY AND OBSERVATION

A new born Jersey upgraded male calf recumbent since birth was reported to the hospital. On examination it was found that the calf had bilateral flexion of knee / fetlock joint of fore limb and bilateral flexion of fetlock joint of hind limb (arthrogryposis – Fig. 1) which made it recumbent. In addition enlarged cranium (domed skull), dished forehead and blindness suggesting hydrocephalus and ill-formed upper jaw - cleft upper lip (Fig. 2) were evident.

Congenital hydrocephalus (Water head) is an inherited defect leading to dystokia (Kumaresan et al., 2003). This is caused by a simple autosomal recessive gene resulting in abnormal accumulation of cerebrospinal fluid within the cerebral ventricular system characterized by domed skull, poorly developed teeth, depression, blindness and survival only for a few days (Radostits, 2005 and Gulbahar et al., 2005).

Arthrogryposis (rigid joints) is a congenital defect leading to distokia (Mahajan et al., 2006 and Shukla et al., 2008). This is often associated with cleft palate (Leipold et al., 1970) but in this case cleft lip was noticed. Although not much is known about the etiology, some cases are thought to be inherited and due to autosomal recessive gene with a higher incidence in farms where in-breeding is practiced (Singh and Little, 1972).

Clefts of the face are developmental disorders due to failure of closure in facial processes such as the frontonasal, maxillary and mandibular processes with defects appearing in the lateral or median site of the rostral face as cleft lip, jaw, and palate (Moritomo et al., 1999). Cleft lip and palate are reported in Jersey and Hereford breeds (Shupe et al., 1967). Cleft lip is due to a disturbance of the process that form the jaw and face during embryonic development and may be unilateral or bilateral, complete or incomplete and the presenting signs will be difficulty in suckling, dysphagia, and evidence of milk dripping from the nostrils when the newborn attempts to suckle (Swartz et al., 1982).

Since the calf was unable to stand and facial defects interfered with suckling, feeding at regular intervals with the help of a stomach tube to meet out the daily nutrient and calorie requirement was carried out. The calf survived only for 36 hours.
Fig 1: Bilateral flexion of knee/fetlock joint of fore limbs and bilateral flexion of fetlock joint of hind limb. (Arthrogryposis).

Fig 2: Domed skull, lished forehead (hydrocephalus) with ill formed upper jaw- cleft upper lip.
REFERENCES