Ichthyosis fetalis in a she buffalo

B Priyanka, J Raju, T Parthasarathi and P Shankaraiah

Abstract
The purpose of this report was to present the case of dystocia due to ichthyosis fetalis in a non-descriptive she-buffalo and the clinical features of ichthyosis fetalis calf. The full term primiparous non descriptive buffaloe was presented with the complaint of straining since 12 hrs. After careful physical, clinical, per vaginal examination the case was diagnosed as dystocia due to incomplete dilatation of cervix and presence of abnormal fetus in the birth canal. Following epidural anesthesia dystocia was successfully managed by per vaginal delivery and its recovery is reported.

Keywords: Ichthyosis fetalis, hyperkeratosis, dystocia, buffaloe.

Introduction
Dystocia refers to abnormal or difficult birth. It is expected to occur in about 10-15% of first calf heifers and in 3-5% of mature cattle. Various kinds of fetal anomalies and monstrosities have been recorded in bovines (Roberts, 2004) and sometimes they cause dystocia in animals. Ichthyosis is a cutaneous keratinization disorder; most of the ichthyosis disorders are genetic in origin, affecting both man and animals (Molteni et al., 2006) [1]. The name is derived from the Greek word for fish because of the fish scale-like appearance of the hyperkeratotic skin. Ichthyosis in animals is a rare congenital condition that has been reported in cattle, dogs, pigs, chickens, laboratory mice, and a llama (Ginn et al., 2007; Scott, 2007) [2, 5]. Two forms of ichthyosis have been described in various breeds of cattle, ichthyosis fetalis and ichthyosis congenita. Both are caused by single autosomal recessive genes. Ichthyosis foetalis (IF) is an ectodermal dysplasia. This lethal subtype of ichthyosis is characterized by the presence of hyperkeratotic epidermal plates of various sizes covering the entire body and enclosed by inflamed fissures. Ichthyosis fetalis is the more severe and lethal form. Affected calves are dead at birth or die shortly after birth. Ichthyosis congenita is the milder form of the disease and lesions are more localized (Ginn et al., 2007; Scott, 2007; Testoni et al., 2006) [2, 5, 6].

Case History and Observations
A four year old full term pregnant primiparous non descriptive she buffaloe was presented to the Primary Veterinary Centre, Wanaparthy, Jangaon district of Telangana state with the history of continuous straining since last 12 hrs. Clinical examination revealed slightly raised temperature (102 °F) and pulse (90/min). On physical examination edema of the external genitalia was noticed and per vaginal examination revealed partially dilated cervix and presence of a live fetus with abnormal skin in the anterior presentation was noticed.

Treatment and Discussion
In the present case after thorough per vaginal examination the decision was taken out to relieve the dystocia by manual traction. Following epidural anesthesia (10ml, 2% lignocaine hydrochloride), cervix was manually dilated and birth canal was well lubricated with carboxy methyl cellulose sodium@20 gr/L luke warm water. After that fetal head and limbs were held pervaginally and ropes were applied to the abnormally scaly limbs. By manual traction the live female fetus was delivered but the fetus was died 1 hour after birth. The dam was treated with 5%Dextrose normal saline 5 lits IV, Intacef(Ceftriaxone)-3 gms (IM), Melonex(Meloxicam)-0.2mg/kgb.wt(IM), Anistamin (Chlorpheniramine maleate)-10 ml (IM) for 3 days. An uneventful recovery of the dam was noticed thereafter. Grossly, on physical examination the female fetus weighing 19 kgs having thick horny plates on its entire skin and they separated by deep fissures (Figure 1). Except for the most distal parts of the limbs and lower lip, the entire body surface was completely hairless. The calf continuously tried to position itself in sternal recumbency. Suckling reflex was absent and the calf was died after 1 hour.
Fig 1: Ichthyosis foetalis in buffalo calf

This calf was born of a normal buffaloe and found with fissures and thickened, scaly, cutaneous plates covering over 95% of its body and it has small malformed ears, eyes and abnormal nose. Ichthyosis foetalis is generally referred to as an autosomal recessively inherited malformation (Tuff and Gleditsch, 1949) [8]. The most extreme and fatal form of ichthyosis has already been reported in the Norwegian Red Poll, Friesian, Brown Swiss and Chianina breeds (Stöber, 2002; Molteni et al., 2006) [6, 3]. The phenotype of bovine ichthyosis foetalis most closely resembles human harlequin ichthyosis (Chittick et al., 2002) [1]. However, the hereditary forms of ichthyosis in man and animals are incurable diseases. In animal forms of ichthyosis, euthanasia remains the only acceptable option because of economical and ethical aspects. However, a well thought-out breeding program can restrict and avoid the spread and prevalence of the genetic disorder by excluding proven carriers, both males and females, from breeding.

References