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Successful clinical management of meningitis in a neonatal Gir calf

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Abstract
A three days old female Gir calf was brought to the Veterinary College and Research Institute Hospital, Namakkal with the history of not drinking milk, not able to stand and walk since three days. Clinical examination revealed that the animal was in lateral recumbency with respiratory distress, opisthotonus, and nystagmus. The calf was treated with oxytetracycline, flunixin, and vitamin B1along with fluid therapy. The calf recovered uneventfully after treatment.

Keywords: triclosan, TCS, determination, detection, sensor

Introduction
Meningitis is common in young ones and neonates due to bacterial infection especially gram negative septicaemia. Calves fed with inadequate amount of colostrum have low level of acquired immunoglobulin are predisposing for meningitis. Septicaemia may originate from the umbilicus infections or oral pathogens. In adult cattle the source of the infection will be from the uterus, mammary gland and chronic infection of traumatic reticulo peritonitis (Tracy stokol, 2009). In calf and neonates most commonly gram negative bacteria esp *E. colli* and less commonly gram positive bacteria will cause meningitis. This paper reports a case of meningitis in a Gir calf of three days old and its successful recovery.

Case history and observation
A three day old Gir female calf was presented to the Veterinary College and Research Institute Hospital, Namakkal with signs of unconsciousness, and not able to stand or walk. Clinical Examination revealed that the calf was in lateral recumbency with unconsciousness, dry muzzle and dry congested conjunctival mucous membrane. The temperature was 40^{o} C and tachycardia was noticed. The respiration is shallow and about 24 breaths per minute. Frequent pedalling of the limbs with cold extremities, opisthotonus and nystagmus were noticed. The umbilical cord was not severed properly and it was contaminated with soil. Haematology revealed leucocytosis and neutrophilia.

Treatment and Discussion
The animal was treated with oxytetracycline (10 mg per kg BW intravenously) Flunixin (@ 1.1mg per kg BW intravenously), and Vitamin B1 (intramuscularly). Fluid therapy was administered with dextrose normal saline and ringers lactate (@ 20 ml per Kg BW). Manitol was given (@10 ml per kg BW for two days. The calf was able to sit in sternal recumbency after 3 days. By about 5th day of the treatment the animal was able to stand and walk properly and started drinking milk. The animal maintained normal posture of the neck and gait. Complete recovery was noticed in 7 days.

Meningitis is inflammation of meninges. Neonatal infections and sepsis occur most frequently in calves with failure of passive transfer. Because of invading bacteria lead to up focal infections, such as in joints or meninges or generalized sepsis may occur. If not treated sepsis can lead to a systemic inflammatory response, multiple organ dysfunction, septic shock and death. Treatment includes antimicrobial drug, fluid therapy, non-steroidal anti-inflammatory drugs and plasma transfusion. Preventing the failure of passive transfer through good colostrum management is essential (Fecteau *et al* 2009). Escherichia coli was the organism most frequently isolated from the CNS. The changes observed were lethargy, recumbency, anorexia, loss of suckle reflex, coma, leucocytosis and a left shift.

(Green, 1992).Clinical and haematological changes observed are in accordance with the findings of the above authors.

Summary
Meningitis occurs in neonate calves due to the failure of passive transfer of immunity and focal sepsis of bacteria. This paper records a case of successful clinical management of meningitis in a three day old Gir calf.

Fig 1: Calf with meningitis showing signs of opisthotonus.

Fig 2: Uveitis and hypopyon with dry muzzle

Fig 3: Recovery from meningitis after Treatment

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References

1. Fecteau G, Smith BP, George LW. Septicaemia and meningitis in the new-born calf. Vet Clin Food Anim. 2009; 25:195-208.
2. Green SL, Smith LL. Meningitis in neonatal calves: 32 cases (1983-1990). J Am Vet Med Assoc. 1992; 201:125-128.
3. Tracy Stokol, Thomas J Divers, Jessica W Arrigan, Sean P McDonough. Cerebrospinal fluid findings in cattle with central nervous system disorders: a retrospective study of 102 cases (1990–2008). Vet Clin Path. 2009; 38(1):103-12.