

A PRELIMINARY CLINICAL REPORT ON THE OCCURRENCE OF BOVINE EPHEMERAL FEVER AMONG CROSSBRED CATTLE IN PAKISTAN

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Bovine ephemeral fever (BEF) is an infectious viral disease of cattle generally characterized by fever, muscular shivering, stiffness, lameness with sudden onset but a short duration of the illness (Radošts *et al.*, 1994). The present report deals with three clinical cases in crossbred cattle in which implication of BEF was a strong suspect on clinical grounds. This is the first report on the occurrence of this condition among crossbred cattle in Pakistan.

Case 1

A crossbred cow aged 4 years in her 2nd lactation was attended on 15-9-98 at a farmstead in Sudhupura, Faisalabad. It belonged to a herd comprising both buffaloes (n=10) and crossbred cattle (n=6). The animal had calved four months ago. The milk production before the onset of illness was about 18 liters/day which almost totally ceased after the onset of sickness. The owner noticed the sickness first on 14.9.98.

Clinical examination on 15.9.98 revealed a high fever (106°F) along with rapid and loud heart sounds. A mild serous nasal discharge was also present. The most remarkable sign noted was right hind leg lameness, followed by recumbancy. The animal was unable to rise even on severe beating by the owner. Muscle trembling of hind quarters was also evident. The animal remained recumbent for 24 hours along with complete loss of appetite. The following treatment was instituted for 3 days.

1. Inj. Oxytetracycline (Oxycon-50, Vetcon pharmaceutical Ltd. Pakistan) @ 5 mg/Kg IM.
2. Inj. Pheniramine maleate (Rexavil, 22.7 mg/mL, S.J. and G. Fazul Ellahie Ltd. Pakistan) 25 mL IM.
3. Inj. Vitamin B-Complex (Bentaplex, Bently Pharmaceutical Ltd. Pakistan) 20mL IM.
4. Wheat porridge (½ kg) plus ½ kg jaggery ('gurh' in Punjabi) boiled in 2 liters of milk and given as a drench.

On 16.9.98 morning, the animal was still recumbent with rectal temperature of 103°F. The animal regained control of her feet in the evening and

started partaking food. It completely recovered in three days except the milk production which took about 2 weeks to return to its original level.

Case 2

The subject was a three years old crossbred first calf heifer in her 7th month of lactation. It was non-pregnant and was on a very good plane of nutrition. The daily milk production was about 10 liters. The disconcerting owner who managed 2 more crossbred cattle, sent us to treat the cow on 15-10-98 because of sudden onset of complete anorexia, fever with pronounced quivering of thigh muscles. Clinical examination revealed fever (104.6°F), depression, piloerection, complete loss of appetite and grinding of teeth. The milk production decreased from 10 liters/day to almost nil. Other signs noticed included ruminal stasis, loss of cud, lameness in right front leg and fast and loud heart sounds on auscultation. Another hallmark feature noted was the constant standing of animal since yesterday. The treatment as described under case 1. was instituted for three days.

On 16.10.98 the animal started partaking food and was able to sit on the ground. The rectal temperature was 103°F. The animal completely recovered on 17.10.98. Total course of illness was three days. Nonetheless, milk production rebounded to normal level after about 12 days.

Case 3

A subject was a 3 years old crossbred cow in 7th month of her 2nd lactation producing 10 liters/day. The owner maintained one more crossbred cow. The case was attended by us on 2.11.98 morning. It had been sick since yesterday morning. The tympany was the first symptom noted by the owner which persisted for 12 hours. The animal had been standing for the last 24 hours. The important clinical signs included fever (104°F), complete anorexia, fasciculation of thigh muscles (quadriceps femoris), grinding of teeth, dribbling of saliva and slight serous nasal discharge. At about 9 p.m. the animal developed lameness in left hind leg which was followed by recumbency. The

animal was treated for three days with following regimen:

1. Inj. Streptopenicillin (Penivet-5, Star Labs, Pakistan) 5gm IM.
2. Tab. Vit. B-complex with metamizole (Tab. Doloneurobion, Merck Marker Pharmaceutical Ltd. Germany) 8, P.O.
3. Wheat porridge (1/2 kg) plus 1/2kg jaggery ('gurh' in Punjabi) boiled in 2 liters of milk and given as a drench.

On 3.11.98, the body temperature had reduced to 101.4°F. Fasciculations of thigh muscles were still present but their intensity and frequency had markedly dwindled. Other interesting observation was that the lameness had shifted from left hind leg to left front leg. A noticeable improvement in the general demeanor of the animal was recorded and she started partaking food. The animal completely recovered on 4-11-98 i.e. total course of the disease was three days.

DISCUSSION

Although veterinarians and farmers in Pakistan frequently narrate a characteristic illness among cattle and buffalo with signs compatible with those of bovine ephemeral fever (BEF), curiously enough as far as could be ascertained, the condition has heretofore gone unreported. A wide variety of clinical symptoms has been associated with BEF as described by Losos (1986), Nagano *et al.* (1990) and Radostits *et al.* (1994). Most commonly these include pyrexia, muscular shivering, stiffness, lameness with sudden onset and a short course of illness. Even in the present study which dealt with only three cases, signs were somewhat variable. However, the common denominator signs in all the cases included sudden onset of fever, anorexia, quivering of thigh muscles, shifting lameness/inability to sit or stand, a remarkable drop in milk production and a transient nature of illness. These characteristic signs, season of occurrence (summer and fall) and a transient nature of illness resolving after three days would strongly argue for the implication of bovine ephemeral fever virus in the subject of present report. Although, the disease was transient in nature lasting for only three days, it drastically reduced milk production over an extended period of time.

The cases of suspected BEF in the present report were sporadic in occurrence. The cohorts in all three cases remained unaffected. This contrasts with the reports of epidemic occurrence of this disease in

several countries such as China (Wenbin *et al.*, 1991; Zhou *et al.*, 1993) Korea and Japan (Shirakawa *et al.*, 1994), Australia (Shiel *et al.*, 1989; Kirkland *et al.*, 1992) and India (Sharma, 1992).

All three subjects of present report were treated with antibiotics and Vit. B-complex. Wheat porridge plus jaggery and milk was administered as a drench to provide a source of energy to the animals which were almost totally anorectic. Because of short course of illness, the cases could have been left untreated and it is entirely possible that they still might have recovered after three days. The treatment was attempted to prevent secondary bacterial infections and to appease the concern the clients about the health of their animals. Although, hypocalcemia is an important biochemical alteration in cattle suffering from BEF (Uren, 1989; George *et al.*, 1995), the administration of calcium was not restored to because of accompanying pyrexia. The use of metamizole as a non-steroidal anti-inflammatory agent in case no. 3 is consistent with the recommendation of Uren (1989) and Thakur and Jha (1995). An etiologic diagnosis was not attempted in the present study. Future investigations should address this important aspects of BEF in Pakistan.

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