ORCHITIS DUE TO BRUCELLOSIS IN A BUCK

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HISTORY AND TREATMENT

In a flock of 198 goats and two bucks maintained on grazing and stall feeding, one of the bucks suffered from orchitis. The testes of the buck were found inflamed with systemic reaction i.e. 105°F. The said buck was treated with Terramycin PVP (Pfizer, Pakistan) 8 c.c. I/M and cold application (morning and evening) for 10 minutes for 5 days but no relief was noticed. For the next 5 days Amoxicollin (Franklin) 8 c.c. I/M and Solon-M (Selmore) 5 c.c. I/M, but recovery could not be obtained. It was suspected that it could be a case of brucellosis, therefore, further, investigations were centered on brucellosis.

CONFIRMATION OF BRUCELLOSIS

1. The blood (10 mL) of the buck was collected and serum separated.
2. The buck was surgically castrated and testicular tissues were cultured as recommended by Alton *et al.* (1975).

Serum Agglutination Test (SAT)

Each serum sample was tested in duplicate. Serial two fold dilutions of the test serum starting from 1:10 upto 0.5 mL) were prepared in phenol saline (0.85% NaCl solution containing 0.5% phenol). The antigen was diluted (as per instructions of VRI, Lahore) and an equal amount was added to each tube. Contents of the tubes were mixed thoroughly and incubated at 37°C for 24 hours. The degree of agglutination was determined by the degree of clearing without shaking the tubes. Known negative and positive sera were used as controls.

Complete agglutination and sedimentation with 100 per cent clear supernatant was marked as four plus (++++), similarly, 75, 50, 25 per cent were marked as three, two and one plus, respectively. No agglutination and no clearing was considered as negative.

The highest serum dilution showing 50 per cent clearing (++) was considered as titre of that serum. A titre of 1:40 or higher was considered as positive as per recommendations of FAO/WHO Expert Committee on Brucellosis.

Isolation of Brucella

Cultural isolation of brucella was attempted on Tryptose agar plates incorporating crystal violet at 1:500,000 concentration to the media. Two plates were inoculated with testicular tissue, one incubated aerobically and the other under 10 per cent added carbon dioxide tension, initially for 72 hours. Colonies suspected for brucellae were confirmed by checking against monospecific antisera and recording the biochemical reactions (Alton *et al.*, 1975).

RESULTS AND DISCUSSION

The serum sample was positive to brucellosis by SAT at 80 I.U. and culturally *Brucella melitensis* was isolated from the testicular tissues.

Primarily, when the buck was observed suffering from inflammation of testes, it was presumed that the buck might have got injury or contusion on the testes, but temperature simultaneously indicated that it is orchitis. The buck did not responded to any treatment. Then it was suspected for brucellosis. The orchitis is one of the sequelly of brucellosis in males, after an initial bactermia, the organism may localize in the epididymis, causing a spermatocele and infertility. There appears an inflammatory oedema in the loose scrotal fascia, exudate in the tunica vaginalis and early granulation tissue formation. In chronic stage, the tunica of the tests become thickened and fibrous and adhesions develop between them. There is circumscribed indurations in the epididymus and in advance stages may under go caseation necrosis (Blood *et al.*, 1983). Reduced semen quantity and quality, poor motility and a high proportion of spermatoza with morphological abnormalities has been in the males suffering from brucellosis. Number of workers have reported presence of antibrucella antibodies in the seminal plasma and brucellae in the semen (Bale and Diaka, 1981, Ahmad, 1995). The semen is produced in the testes and establishment of infection in the testicular tissue cause its inflammation and presence of brucellae in the semen. At this station, there is a mix farming and sheep and goats and cows get number of chances of

free mixing in grazing pastures. While on grazing the males of goats are let loose in the flock. The goat flock is already infested with brucellosis and 2.1 percent females were found reactors to brucellosis on sero agglutination survey. The positive reactors are routinely culled from the flock. Brucella infection in male goats (bucks) has also been reported by Amra (1991) and Ahmad (1995).

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