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Isolation and characterization of infectious bovine rhinotracheitis virus associated with different clinical manifestations*

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The viral DNA remains in neurons of the ganglia for rest of the life. The virus is excreted and shed in environment under the stress conditions with or without the development of clinical symptoms. This becomes continuous source of infection for other susceptible animal population. The virus isolation in cell culture is the most reliable and confirmatory method for the evidence of disease.

Morbid specimens (20) consisting of 10 each from buffaloes and cattle were collected in present study. The specimens were collected from cases of rhinitis, conjunctivitis, repeat breeding and abortion. The entire 20 specimen were processed for IBR virus isolation as per Mehrotra *et al.* (1979) and Cruickshank *et al.* (1980). The MDBK cell lines supplied by National Centre for cell Science, Pune, were used for isolation of the IBR virus. The CPE were observed at 24 h intervals for 3 consecutive days. A sample was declared positive on the basis of characteristic CPE consisting of cell rounding and detachment. The coverslip preparations of the IBR isolates were further stained by H and E stain (Culling 1974) to observe cellular changes. The intra nuclear Cowdry's Type A inclusion was taken as indication of IBR virus in the MDBK cells. The IBR isolates were further confirmed by virus neutralization test done as per the method of Singh *et al.* (1989).

Samples (2) from cattle and buffaloes (3) showed characteristic CPE on primary isolation in MDBK cell lines. The IBR-1 and IBR-2 were isolated from cases of conjunctivitis in cattle and buffaloes respectively. The IBR-3 and IBR-4 were isolated from repeat breeding cases of cattle and buffaloes respectively. Whereas the IBR-5 was isolated from placenta of aborted foetus of buffalo. Many earlier workers successfully isolated IBR virus on MDBK cell lines from different clinical manifestations (Mehrotra *et al.* 1979 Singh *et al.* 1983 Singh *et al.* 1986. Singh *et al.* 1989, Mohan Kumar *et al.* 1994, Mehrotra *et al.* 1994). All the 5 isolates exhibited presence of intranuclear inclusion bodies in MDBK over slip preparations of the isolates. Similar observations were also reported by earlier workers (Mehrotra *et al.* 1979, Singh *et al.* 1983, Misra and Mishra 1987).

The virus neutralization test was used for confirmation of the IBR isolates (2) consisting of a case of conjunctivitis in buffalo (IBR-2) and a case of abortion in buffalo (IBR-5) were confirmed by virus neutralization test.

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SUMMARY

The study was conducted to isolate and characterize infections bovin rhinotracheitis virus associated with different clinical manifestation. Morbid samples (20) consisting 10 each from buffalo and cattle were collected. These were collected from cases of rhinitis, conjunctivitis, repeat breeding and abortion. IBR-1 and IBR-2 were isolated from cases of conjunctivitis in cattle and buffalo respectively; IBR-3 and IBR-4 were isolated from repeat breeding cattle and buffaloes; and IBR-5 was isolated from pluck of an aborted factus of buffalo. IBR-2 and IBR-5 were confirmed by virus neutralization test.

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