

Brief Communication

NEUTRALISING ANTIBODY TO INFECTIOUS BOVINE
RHINOTRACHEITIS/INFECTIOUS PUSTULAR
VULVOVAGINITIS (IBR/IPV) VIRUS IN FOETAL CALF
SERUM

IBR/IPV infection is wide-spread in East Africa both among domestic cattle (*Jesset & Rampton* 1975) and game animals (*Rweyemamu* 1974). The screening for neutralising antibody to IBR/IPV virus is carried out in primary calf kidney monolayers with the Oxford strain of virus according to the method of *Huck & Woods* (1972). Heat inactivated foetal calf serum is used as negative control. Foetal calf blood is obtained at the main abattoir of the Kenya Meat Commission from foetuses of 5 to 8 months. Following slaughter of the dams the foetuses are removed to a separate room and exanguinated by cardiac puncture.

During our routine work we have observed that two batches of foetal calf serum neutralised our challenge dose of 50—100 TCID₅₀ of IBR/IPV virus. The neutralising capacity of the two pools of foetal calf serum was compared with a known negative bovine serum. The results are shown in Table 1.

Table 1. Neutralising antibody to IBR/IPV virus.

Batch number	SNI*
B 1/11/74	2.4
B 4/11/74	2.0

* Log₁₀ Serum Neutralising Index.

The presence of specific antibodies in foetal bovine sera is regarded as good evidence of intrauterine infection and may be considered of diagnostic value in abortions caused by viruses of low pathogenicity such as Parainfluenza-3 and bovine enteroviruses (*Dunne et al.* 1973). In sera from apparently normal bovine foetuses *Kniazeff et al.* (1967) found significant levels of antibodies to bovine viral diarrhoea virus but not to IBR/IPV, or Parainfluenza-3 viruses. More recently *Miura et al.* (1974) detected neutralising antibody to Akabane virus in precolostral serum from calves with congenital arthrogryposis-hydranencephaly (A-H) syndrome.

IBR/IPV virus has frequently been isolated from aborted foetuses and it has been suggested that foetal infection with this virus causes an acute, rapidly progressing fatal disease resulting in abortion (*Kendrick et al.* 1971).

The titre of neutralising antibody to IBR/IPV virus in the present two serum pools was significant and indicates a previous intrauterine infection which could not have caused the death of the foetus.

Ingvar M. Solberg

The Veterinary Research Laboratory,
P. O. Kabete, Kenya.

ACKNOWLEDGEMENTS

This paper is published by the kind permission of the Director of Veterinary Services, Kenya. The technical assistance of Mr. Isaac A. Aloo is very much appreciated.

REFERENCES

- Dunne, H. W., S. M. Ajinkya, G. R. Bubash & L. C. Griel, Jr.*: Para-influenza-3 and bovine enteroviruses as possible important causative factors in bovine abortion. *Amer. J. vet. Res.* 1973, *34*, 1121—1126.
- Huck, R. A. & D. G. Woods*: Serum neutralization test with infectious bovine rhinotracheitis/infectious pustular vulvovaginitis (IBR/IPV) virus. *Brit. vet. J.* 1972, *128*, LXII—LXIII.
- Jesset, D. M. & C. S. Rampton*: The incidence of antibody to infectious bovine rhinotracheitis virus in Kenyan cattle. *Res. vet. Sci.* 1975, *18*, 225—226.
- Kendrick, J. W., L. Schneider & O. C. Straub*: Placental reaction to infectious bovine rhinotracheitis-infectious pustular vulvovaginitis virus. *Amer. J. vet. Res.* 1971, *32*, 1045—1051.
- Kniazeff, A. J., V. Rimer & L. Gaeta*: Gamma-globulin in foetal bovine sera: Significance in virology. *Nature (Lond.)* 1967, *214*, 805—806.
- Wiura, Y., S. Hayashi, T. Ishihara, Y. Inaba, T. Omori & M. Matumoto*: Neutralizing antibody against Akabane virus in precolostral sera from calves with congenital arthrogryposis-hydranencephaly syndrome. *Arch. ges. Virusforsch.* 1974, *46*, 377—380.
- Rweyemamu, M. M.*: The incidence of infectious bovine rhinotracheitis antibody in Tanzanian game animals and cattle. *Bull. Epizoot. Dis. Afr.* 1974, *22*, 19—22.

(Received September 23, 1975).

Reprints may be requested from: Ingvar M. Solberg, Statens veterinære laboratorium i Sandnes, N-4300 Sandnes, Norway.