

Demonstration of *Tritrichomonas foetus* in the external genitalia and of specific antibodies in preputial secretions of naturally infected bulls.

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Abstract

Portions of penis and prepuce were collected from 24 bulls with current or recent *Tritrichomonas foetus* infection. Epididymides were collected from seven of the bulls, and seminal vesicles and prostate were collected from four. Following immunohistochemical staining with two monoclonal antibodies (34.7C4.4 and TF1.15) prepared against *T. foetus* surface antigens, trichomonads were identified in sections from 15 of the bulls. Organisms were most often located in penile crypts in the midshaft and caudal regions and less often in preputial crypts. Trichomonads were not observed in sections from other genitalia or in subepithelial tissue. *T. foetus* antigen, however, was present in the cytoplasm of some epithelial cells and the cytoplasm of some mononuclear cells in subepithelial lymphoid aggregates and follicles. Preputial smegma was collected from 16 *T. foetus*-infected bulls and from 16 control bulls with negative *T. foetus* cultures. Preputial antibody levels to TF1.17, a surface antigen of *T. foetus*, were determined by an enzyme-linked immunosorbent assay. Preputial secretions from infected bulls contained specific antibody of each isotype and subspecies tested. IgG1 responses were the greatest, IgM and IgA responses were approximately equal, and IgG2 responses were low. Each isotype and subspecies response in infected bulls was significantly greater than that in the controls. These results confirm previous speculation concerning anatomical sites of infection and suggest that parasite antigen can be taken up and processed locally, resulting in deposition of specific IgG1, IgG2, IgA, and IgM antibodies in the preputial cavity.