The study group included 8 veterinarians, 3 laboratory technicians, and 30 farm workers (male to female ratio 9:1; mean age 38 years, range 14-65 years). The intensity of exposure to infected ostriches was graded according to a scoring system. An ELISA system based on recombinant virus proteins p40 and p18, antibodies to BDV were found in 46% of workers versus 10% of controls (p<0.001). There was a strong correlation between the intensity of exposure and the rate of seropositivity (p<0.001), as well as within the study group. In the control group there was no significant difference in the seropositivity rates. The high rate of seropositivity among the controls may be due to the high sensitivity of our method.

Our findings suggest that ostriches may serve as reservoirs for human infection with BDV. The significance and epidemiology of BDV infection in people are still unknown. There is a broad variation in rates of infection with BDV in different areas, which may be attributed to the differences in the assay methods. Moreover, BDV proteins were used to establish a sensitive ELISA for the detection of antibodies to the virus. The specificity of the ELISA was augmented by the detection of the test as positive only if they reacted with two viral proteins. The high rate of seropositivity among the controls may be due to the high sensitivity of our method.

Our findings support the hypothesis that BDV may be a primary infectious disease transmitted from infected animals to exposed people. As presented, some of those with antibodies to BDV have neurological symptoms, but continued observation will be necessary to determine the clinical significance of immunoreactivity in this population.

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