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Rotavirus infection

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Rotavirus infection of birds is a relatively new disease having been first described in 1977. Rotavirus infection is typically associated with bouts of scour. Interspecies rotaviral transmission probably does not occur and rotaviruses from poultry have no human health significance.

The virus

Rotaviruses are a member of the Reoviridae family and only affect vertebrates. They are transmitted by the faecal-oral route. They are double stranded RNA viruses. Under the electron microscope they have an appearance akin to a wheel with a wide hub and short radiating spokes. The Latin word rota means a wheel. Rotavirus are classified into typical and atypical viruses. Antigenically they are differentiated by letter and rotaviruses from groups A, D, F and G have been found in birds. Group A rotaviruses infect mammals and birds, whereas D, F and G rotaviruses only infect birds.

The disease – rotaviral enteritis

Rotaviral enteritis is typically found in young birds (less than six weeks old), such as chicks, turkey or pheasant poults, partridges, quails and duck. Various surveys of young birds with scour show a significant number to be infected with rotavirus. Very large numbers of viruses are excreted in the faeces of infected birds making horizontal transmission easy. There is some suggestion that vertical transmission may occur. Litter beetles have been shown to carry this virus. Age resistance is weak or non-existent and for this reason relapses are sometimes seen in older birds. The incubation period is normally 2-5 days and afflicted birds have watery droppings and pasted vents. In turkey poults bad outbreaks may have 5% mortality but a very high morbidity.

Post mortem findings

The most common finding is that of watery intestinal and caecal contents, which may contain large gas bubbles. Secondary findings are those of dehydration, stunted growth, pasted vents, vent pecking and litter encrustations on the toes/feet. Rotavirus infection resembles intestinal coccidiosis in that different strains of the virus prefer different sectors of the small intestine. Diagnosis is confirmed by the presence of rotavirus in the intestinal contents or in the faeces by electronmicroscopy.

Treatment

There is no specific treatment for rotavirus infection and vaccines are not available. The best treatment is symptomatic treatment of the scour by managing the environment, litter and fluid intake.