



PINMOORE ANIMAL LABORATORY SERVICES
BIRCH HEATH ROAD, TARPORLEY, CHESHIRE CW6 9UU

Avian Pathogens

Chlamydophila

Chlamydophila psittaci is a common zoonotic pathogen in birds and can cause conjunctivitis and flu like symptoms in people. The infection usually occurs via inhalation of dried bird droppings of infected psittacines, or via nasal and ocular fluids. The infection is particularly prevalent in budgerigars and cockatiels. In birds clinical signs include conjunctivitis, nasal discharge, dyspnoea and green urates. Hepatosplenomegaly is a common clinical or post mortem finding.

Diagnosis can be difficult. Clinical presentation is not pathognomic. Antibody titres can identify exposure, but the gold standard is considered to be detection of organism in faecal material. A PCR test is available. A faecal sample collected over three days is preferred to reduce the incidence of false negative results due to intermittent shedding by the bird.

PBFD (Psittacine Beak and Feather Disease)

PBFD is a highly pathogenic circovirus infecting many bird species. The pathogen is very stable in the environment and it is suggested that it remains infectious for years. It is also resistant to many disinfectants. It is of particular concern in psittacines. Feather abnormalities can be seen in chronically infected birds, but it also presents as acute leucopaenia and death in young birds (especially African Grey parrots). It is often associated with secondary infections such as *aspergillus* and *chlamydophila* due to the immunosuppression. Infections can occur by inhalation of contaminated feather dust, oral intake of fresh or dried faeces or crop secretions. The virus is spread easily via contaminated clothing, food, food utensils, air and travelling boxes. As such, screening for the virus prior to birds entering a collection or for assessing clinical cases with feather changes, is to be strongly advised.

PBFD can be detected using a PCR test; performed on Heparinised blood, feathers containing fresh pulp or bone marrow biopsy.

Avian Polyoma virus (APV)

The pathogen is very stable in the environment and is spread through persistent shedding from latently infected adult birds and via fomites. The virus is excreted in the faeces as well as skin and feather dust. Latently infected birds transmit the virus to their immunoincompetent youngsters. For baby psittacines, this infection can be deadly leading to feather abnormalities, anaemia, spontaneous haemorrhaging and sudden death. Older birds can occasionally show symptoms of septicaemia, hepatitis and feather abnormalities. Avian polyoma virus can be diagnosed by means of PCR using heparinised blood or feathers containing pulp.

Psittacid Herpes virus/Pacheco's disease

The Psittacid Herpes virus (PsHV), an α -Herpes virus, is responsible for Pacheco's disease. Like many Herpes viruses, PsHV has the ability to become a latent infection with lifelong persistence of the pathogen. This world-wide occurring disease can often manifest itself as sudden death. It is excreted mainly in faeces but also in other body fluids. Infection maybe airborne or oral. The incubation period is short, being approximately 7 days. The main gross post mortem finding is a hepatopathy. The disease can cause outbreaks during stressful situations, such as quarantine, changes in husbandry or flock dynamics, transport or breeding resulting in activation of latent infection. Diagnosis is via histological examination or PCR test on Liver, Kidney, Spleen, Faeces or Feathers. A rising antibody titre may also indicate active infection.

Paramyxovirus infection

Avian paramyxoviruses are divided into several serotypes. In psittacine birds PMV-1 and PMV-3 are of importance. Both are shed in bodily secretions and are stable in the environment. Newcastle's disease caused by PMV-1 is a notifiable disease. With PMV-1 infections, there may be no clinical signs before death, but in most cases respiratory and intestinal symptoms develop, the birds also become depressed and stop eating. Later on loss of equilibrium, opisthotonus, torticollis and tremors can occur. PMV-1 is a zoonosis and is able to cause severe conjunctivitis in humans. PMV-3 infections are not as severe as PMV-1, usually only mild CNS symptoms occur. Serology can be used to identify the presence of PMV antibodies, this test will differentiate between PMV-1 and PMV-3.

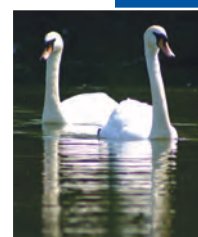


Aspergillus

Aspergillosis is a significant fungal disease of companion birds, usually resulting in respiratory disease. There are several species of Aspergillus, these include *Aspergillus fumigatus*, *A. flavus* and *A. niger*. It is often an opportunistic pathogen in birds suffering from malnutrition or infected with PBFD virus. Significant amounts of the organism are present in decaying organic material such as feed or aviary substrates, especially in warm humid environments. It is overrepresented in species such as Penguins, Goshawks, Gyr Falcons and Snowy Owls, which originate from colder climates. It is also highly associated with potential stressful situations.

The diagnosis relies on a variety of techniques. A presumptive diagnosis may be made based on clinical history, radiography and haematological investigations, but direct visualisation of lesions with an endoscope is required for confirmation. Endoscopic biopsy of lesions for cytology or histopathology can reveal fungal hyphae. Fungal culture can also be performed and is required for a definitive diagnosis.

However in circumstances where this is not possible, an Aspergillus antibody titre can be performed on serum.



Trichomonas

Trichomonas is a flagellate protozoan which is spread via direct contact. Clinical signs include anorexia, vomiting, diarrhoea, depression and dyspnoea. It often manifests itself as cream coloured plaques in the oral cavity, most commonly in Budgerigars, Pigeons and Raptors.

Diagnosis can be confirmed via an immediate examination of a crop wash.

Coccidiosis

Coccidiosis is a significant protozoal infection of birds, clinical signs include depression, anorexia, regurgitation and diarrhoea, often with blood. Infection is via ingestion of Coccidial oocysts.

Diagnosis of coccidiosis can be based on demonstration of oocysts in faecal floatations.



Ascariasis

Ascariasis is common in aviary birds with dirt flooring. Typical clinical signs include weight loss or emaciation. It is spread via contact with larvae or eggs; good hygiene is required to prevent reinfection.

Diagnosis of Ascariasis can be confirmed in faecal floatations.

Giardia

Giardia is transmitted via the ingestion of food contaminated with faeces from infected birds. Giardia can be associated with chronic diarrhoea, anorexia, regurgitation and is reported to be associated with feather plucking in cockatiels.

Diagnosis of Giardia can be confirmed in faecal floatations.



Yeasts

Yeasts are part of the normal GI flora but may multiply under certain conditions such as warm humid weather, GI motility disturbances, use of antibiotics, poor hygiene, excessive dietary carbohydrates and general ill health.

Clinical signs include diarrhoea, vomiting, abnormal droppings, delayed crop emptying or crop stasis.

Diagnosis of Yeasts can be confirmed by performing a Gram Stain.

