INTRODUCTION AND OBJECTIVE

Psittacine beak and feather disease (PBFD) is a viral disease affecting more than 60 species of psittacines around the world that threatens the conservation of species in risk of extinction and represents also an increasing concern to aviculturist. It is caused by a non-enveloped,icosahedral, 14-16nm, single stranded DNA virus that belongs to the Circovirus genus.

The objective of this study is to do a review of the information about the PBFD virus and to apply this information to two main clinical presentation of this disease.

EPIDEMIOLOGY

PBFD affects generally younger than 2 years old parrots, but parrots of all ages can suffer the disease. Psittacines from all the world should be considered susceptible but Australian, New Zealand and African parrots are the most susceptible to the disease.

PATHOPHYSIOLOGY

The incubation period is about 21-25 days commonly. But it depends on the age, the dose of the virus, the stage of development of the feather and the immunity of the bird. Adults take from months to years to get infected and develop the clinical disease.

PBFD is an epitheliotropic virus, and affects not only the skin and feathers of the bird but also the gastrointestinal tract epithelium and the extragastrointestinal epithelium, as the bursa of Fabricius and the liver. The necrosis and damage that causes in the bursa, timus and lymphoid system are the responsible for the immunosuppression suffered by the birds.

TRANSMISSION

Normally courses to principal DNA is Cell Blood Count
signs appear the course of the disease is generally fatal. Experimentally two 2018 the this species the affection of the disease
of PBFD is a worldwide spread disease and represents a threat for both captive and wild psittacines.

DIAGNOSIS

The polymerase chain reaction (PCR) from blood of feather samples is the most specific and sensitive method to diagnose PBFD. Haemaglutination (HA) and haemaglutination inhibition (HI) tests can add useful information together with the results from the PCR. When the animal presents the chronic form of the disease a biopsy of the feather follicle is also diagnostic.

CLINICAL SIGNS

There are two principal possible courses of this disease; the acute and chronic one. Normally the development of the disease depends on the age of the bird when it gets infected.

CLINICAL CASES

Case 1: Acute form in an African Grey Parrot

Presenting complaints: A 3 months old female African Grey Parrot (Psittacus erithacus) is presented with apathy, anorexia and nasal secretion.

History: The bird presented the symptoms for 4 days. It has indoor and is a hand-reared bird currently starting to eat on its own.

Physical examination findings:

- Cell Blood Count
- Biochemistry

Table 1: Characteristics and differences between the acute and the chronic course of PBFD

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Acute PBFD</th>
<th>Chronic PBFD</th>
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<tbody>
<tr>
<td>Commonly affected bird</td>
<td>African Grey parrot (Psittacus erithacus)</td>
<td>Cockatoo (Cacatua ssp.), Eclectus (Eclectus Arilocus), Red-whited (Melopsittacus undulatus) and lories and kingfowks</td>
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<tr>
<td>Age range</td>
<td>Juvenile birds (1 to 6 months)</td>
<td>Adult birds (8-10 months)</td>
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<td>Clinical signs</td>
<td>Greenish diarrhoea, Depression, Lethargy, Anorexy, Vomiting, Feather abnormalities?</td>
<td>Elongated necrotic beak, Feather loss, Retained feathers, Haemorrhage in the feather rachis, Pinched appearance of rachis, Loss of power down, Dirty plumage</td>
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<tr>
<td>Moment of death</td>
<td>24-36 hours after onset of clinical signs</td>
<td>6-12 months after onset of clinical signs</td>
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CONCLUSIONS

- PBFD is a worldwide spread disease and represents a threat for both captive and wild psittacines.
- The most common presentation of PBFD involves feather loss and feather dystrophy but PBFD also has to be included in the differential of depressed, anorexic, juvenile psittacines, specially African Grey Parrots.
- PCR is the election diagnostic technic for PBFD acute presentation.
- PCR and feather biopsy are both diagnostic for chronic PBFD.
- There is currently no treatment and no vaccine available.
- Prevention by PCR testing and aggressive disinfection together with isolation or euthanasia of the affected birds are the only way to keep an avairy free of PBFD.
- Recombinant vaccines may be a good tool to prevent PBFD clinical disease in a near future.
- Further studies are necessary to find an effective treatment.