

SYSTEMIC VIRAL DISEASES OF PET BIRDS

Slide study set # 21

Prepared by:

S.D. FITZGERALD

and

W.M. REED

Animal Health Diagnostic Laboratory
Department of Pathology
College of Veterinary Medicine
Michigan State University

**This slide study set was created in 1995; some
information may be outdated.**

COPYRIGHT 1995

AMERICAN ASSOCIATION OF AVIAN PATHOLOGISTS, INC.



AAAP BUSINESS OFFICE
NEW BOLTON CENTER
382 WEST STREET RD.
KENNETT SQUARE, PA 19348

*CD version produced in 2001 with the assistance of the AAAP Continuing Education and
Electronic Information Committees*

SYSTEMIC VIRAL DISEASES OF PET BIRDS

By: S. D. FITZGERALD and W. M. REED

The purpose of this slide study set is to review several of the important systemic viral diseases which are unique to pet birds. There will be no mention of the various viruses confined to the gastrointestinal tract such as rotaviruses, coronaviruses, adenoviruses and reoviruses which have been occasionally isolated from pet birds and remain poorly described or are of uncertain pathogenicity. Nor will those viral diseases which occur in a wide variety of avian families be described, as most avian diagnosticians will already be familiar with the manifestations of paramyxovirus, avian influenza and poxviruses in various avian species. Three important systemic viruses which are unique to pet birds will be described: herpesvirus (Pacheco's disease), circovirus (psittacine beak and feather disease), and polyomavirus (budgerigar fledgling disease).

Pet birds are among the most common pets in North America today, with an impressive diversity of species represented predominantly by psittacines (parrot-like birds) and passerines (perching birds). As expanding development by man diminishes the natural habitat of birds throughout the world, many species are becoming threatened, endangered, or even extinct. In response, concerned aviculturists are encouraging captive breeding of various pet bird species instead of continuing wild-trapping and importation. Therefore, it has become more important than ever for avian diagnosticians to be familiar with the potentially fatal infectious diseases affecting these species, in order to maintain healthy captive breeding populations and reduce the need for importing birds.

This script and accompanying slide study set will provide an overview of the clinical features, gross and microscopic lesions associated with each disease, and provide additional information concerning disease transmission, pathogenesis, diagnosis, and control measures when that information is known. Pet bird medicine is still a relatively new subspecialty of veterinary medicine, and much of the information about pet bird viral diseases has only recently been discovered, and much additional investigation is still

needed. It is hoped that this material will assist avian diagnosticians with the recognition and differential diagnosis of pet bird systemic viral diseases.

Pacheco's Disease. Pacheco's disease was first described in 1930 and has also been called Pacheco's parrot disease and inclusion body hepatitis. The disease is limited to psittacines; however, a large number of psittacine species are susceptible. This is generally a peracute to acute disease with rapid clinical course and high mortality. Signs include lethargy, anorexia, ruffled plumage, polydipsia, polyuria and diarrhea. Conjunctivitis, sinusitis, hemorrhagic enteritis, and tremors are less frequently seen. This disease commonly occurs following periods of stress, particularly movement of birds to a new location. Asymptomatic carriers are associated with many outbreaks, with both NANDA and Pragaian conures being commonly implicated as carriers. Epidemics can be quite severe due to the highly infectious nature of the causative herpesvirus, which is horizontally transmitted through the feces.

Psittacine Beak and Feather Disease. Disease syndromes referred to as "psittacine beak and feather disease" (PBFD) or "French moult" have been recognized since the mid-1970's. Most commonly affecting Old World and South Pacific psittacine species, especially cockatoos, PBFD has now been recognized in over 40 psittacine species. Birds are most susceptible to the disease as juveniles, but adults can also develop clinical diseases. Only recently has the causative agent been recognized as a small (14-17 nm diameter), nonenveloped, single-stranded circular DNA containing virus, now classified as a circovirus. At present no suitable in vitro culture system for propagation of the circovirus has been identified.

PBFD may manifest as either an acute or chronic disease. The acute form is generally seen in juveniles, often when the first contour feathers begin to replace the down. Affected nestlings become lethargic, anorexic, develop crop stasis, diarrhea, and may be pancytopenic. Feather lesions may not develop as affected birds die rapidly in many cases. In acute cases the bursa may appear small and the thymus necrotic.

The inclusion bodies of PBFD are remarkably widespread beyond the integument, illustrating the systemic nature of the disease. The inclusions have been

REFERENCES

General:

1. Gerlach, H. Viruses. B.W. Ritchie, G.J. Harrison, and L.R. Harrison (eds), Avian Medicine: Principles and Application. Wingers Publishing, Inc., Lake Worth, Florida, pp. 877-943, 1994.
2. Gerlach, H. Viral diseases. G.J. Harrison and L.R. Harrison (eds), Clinical Avian Medicine and Surgery Including Aviculture. W.B. Saunders, Philadelphia, pp 408-433. 1986.
3. Spenser, E.L. Common infectious diseases of psittacine birds seen in practice. W.J. Rosskopf and R.W. Woerpel (eds.), The Veterinary Clinics of North America: Small Animal Practice. W.B. Saunders Company, Philadelphia, vol 21, no. 6: 1213-1230. 1997.

Pacheco's disease:

1. Simpson, C.F. and Hanley, J.E. Pacheco's parrot disease of psittacine birds. Avian Dis 21: 209-219, 1977.

Psittacine Beak and Feather Disease:

1. Jacobson, E.R., Clubb, S., Simpson, C., et al. Feather and beak dystrophy and necrosis in cockatoos: clinicopathologic evaluations. J Amer Vet Med Assoc 189: 99-1005, 1986.
2. Latimer, K.S., Rakich, P.M., Kircher, I.M., et al. Extracutaneous viral inclusions in psittacine beak and feather disease. J Vet Diagn Invest 2: 204-207, 1990.
3. Latimer, K.S., Rakich, P.M., Steffens, W.L., et al. A novel DNA virus associated with feather inclusions in psittacine beak and feather disease. Vet Pathol 28: 700-704, 1991.
4. Pass, D.A. and Perry, R.A. The pathology of psittacine beak and feather disease. Austr Vet J 61: 69-74, 1984.
5. Ritchie, B.W., Niagro F.D., Lukert, P.D., et al. A review of psittacine beak and feather disease. Characteristics of the PBFV virus. J Am Assoc Avian Vet 3: 143-149, 1989.

Budgerigar Fledgling Disease:

1. Bernier, G., Morin, M. and G. Marsolais: A generalized inclusion body disease in the budgerigar caused by a papovavirus-like agent. Avian Dis. 25: 1083-1092.
2. Dykstra, M.J. and L.H. Bozeman: A light and microscopic examination of budgerigar fledgling disease virus in tissue and cell culture. Avian Pathol. 11: 11-28, 1982.

3. Graham, D.L. and B.W. Calnek: Papovavirus infection in hand-fed parrots: virus isolation and pathology. Avian Dis. 31: 398-410, 1987.
4. Kingston, R.S.: Budgerigar fledgling disease (papovavirus) in pet birds. J. Vet. Diagn. Invest. 4: 455-458, 1992.
5. Kaleta, E.F. Herpesviruses of birds -a review. Avian Pathol. 19: 193-211, 1990.
6. Ritchie, B.W., Diagro, F.D., Latimer, K.S., et al.: Avian polyomavirus: an overview. J. Assoc. Avian Vet. 5: 147-153, 1991.

Random Sample
Pages for Preview



21.01.jpg



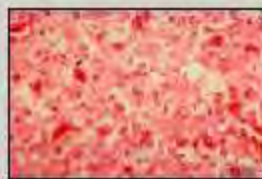
21.02.jpg



21.03.jpg



21.04.jpg



21.05.jpg



21.06.jpg



21.07.jpg



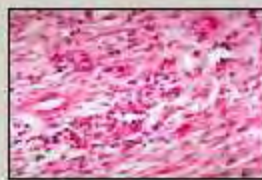
21.08.jpg



21.09.jpg



21.10.jpg



21.11.jpg



21.12.jpg



21.13.jpg



21.14.jpg



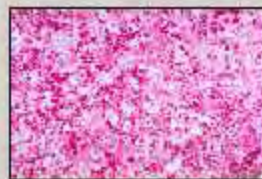
21.15.jpg



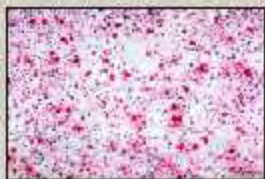
21.16.jpg



21.17.jpg



21.18.jpg



21.19.jpg



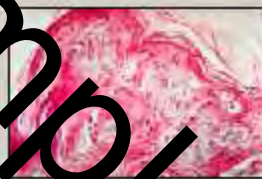
21.20.jpg



21.21.jpg



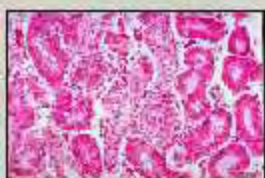
21.22.jpg



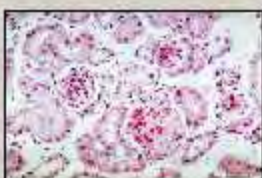
21.23.jpg



21.24.jpg



21.25.jpg



21.26.jpg



21.27.jpg



21.28.jpg

For ages from Preview