An update on viral diseases in psittacines

Thawat Lekdumrongsak

Department of Veterinary Medicine, Faculty of Veterinary Science, Chulalongkorn University, Pathumwan, Bangkok, 10330, Thailand

Abstract

Many viral infections in psittacines can be fatal. The only way to control these diseases is through early diagnosis and proper management. This review emphasizes the importance of good management in preventing viral diseases in psittacines and also introduces an alternative therapy for cloacal papilloma.

Introduction

Psittacines are one of the most popular pets in the world. On the other hand, many of them are still wild animals. Improper husbandry is responsible for many clinical problems. However, infectious disease remains one of the most important health problem. Among many infectious agents, viral infection is one of the major cause of death especially in young birds. Viral diseases are also the most difficult diseases to manage. No specific treatment or commercial vaccine is available for most viral diseases. The best way to control and prevent viral diseases is through quarantine, screening test and good hygiene.

Psittacine beak and feather disease (PBFD)

PBFD is caused by psittacine circovirus (1). PBFD has been recognized as one of the most significant disease in psittacines. The virus is fatal in young birds, while chronic form is more common in older bird. The virus causes beak and feather abnormalities. The disease has been reported from several countries around the world (2-5). PBFD is hard to eradicate, due to the stability of circovirus in the environment and the increasing of global trading of live birds in the past few years. Traditional diagnostic methods such as serology and histopathology have been used to identify the disease. However, the results can be difficult to interpret especially in the carrier birds. Recently, molecular biology provides highly sensitive and specific methods for viral detection (6-8). The usage of molecular base tests, isolation and quarantine can reduce the prevalence of viral infection in captive bred. Blood test for PBFD virus by molecular base method should be performed in every new bird. A positive result means that the bird has been exposed to the virus and the virus is present in the blood. The bird must be retested in 90 days. If the result is negative when retested, it means that virus was not detected or eliminated. If the result is still positive, it means that the bird is latently infected or repeatedly exposed to the virus (9).

Avian polyomavirus

There are two forms of the disease, the first one is budgerigar fledgling disease and the second one is non-budgerigar polyoma infection. Both forms usually cause acute death in neonates. The prominent gross lesions are subcutaneous hemorrhage and pale skeletal muscle. Surviving budgerigar older than 3 weeks often show abnormal feather development. Older non-budgerigar psittacines may have subclinical disease. Adult birds rarely develop clinical disease. Thus, molecular base tests are being used for rapid diagnosis and carrier testing (10,11). Previous studies have reported that several birds shed virus intermittently. So the blood test should be used as the screening test during the quarantine period. If the result is positive, the bird must be retested in 90 days (12). If the result is negative when retested, the bird should be isolated for four additional weeks.

Psittacine herpesvirus

Psittacine herpesvirus can cause several diseases in psittacine. Pacheco's disease and papillomatosis are the most important diseases. Clinical signs of Pacheco's disease are acute death and bright yellow urate. Fortunately, acyclovir has been found to be effective in treatment of Pacheco's disease (13). Papillomatosis may occur in birds that survived from Pacheco's disease. The lesions are predominantly found in the cloaca. There are several treatment options such as surgical excision, cryosurgery and chemical cautery. Cauterization with silver nitrate solution is a highly effective treatment for cloacal papilloma (14). However, recurrence of papilloma after treatment is common. Moreover, the birds with cloacal papilloma have higher risk of developing bile duct carcinoma and pancreatic duct carcinoma compared with normal birds.

Conclusion

Prevention of viral infections into the aviary is the best way to manage viral diseases. The prevention depend on the balance of strict bio-security, effective screening test and good quarantine program. These procedures can reduce the prevalence of viral infections in closed aviary populations. In addition, good hygiene and proper husbandry play a significant role in disease prevention. Finally, the important part of successful viral disease prevention is ensuring that all persons involved with animals, including veterinarians, farm owners, farm workers, pet shop owners, pet shop workers and also bird owners are aware of it.
References