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Laura Wade

Bacterial and Parasitic Zoonoses of Exotic Pets 401

Marcy J. Souza

Zoonoses are estimated to make up to 75% of today's emerging infectious diseases. Many of these diseases are carried and transmitted by exotic pets and wildlife. Exotic animal practitioners must be aware of these risks not only to protect their health but also to safeguard the health of staff and clients. This article reviews selected bacterial and parasitic zoonoses associated with exotic animals.

Bacterial and Parasitic Diseases of Parrots 417

Robert J.T. Doneley

As wild-caught birds become increasingly rare in aviculture, there is a corresponding decline in the incidence of bacterial and parasitic problems and an increase in the recognition of the importance of maintaining health through better nutrition and husbandry. Nevertheless, the relatively close confines of captivity mean an increased pathogen load in the environment in which companion and aviary parrots live. This increased pathogen load leads to greater exposure of these birds to bacteria and parasites, and consequently a greater risk of infection and disease. This article discusses bacterial and parasitic infections in companion and aviary parrots. It includes the origins, pathogens, diagnosis, treatment, and some of the associated risk factors.

Bacterial and Parasitic Diseases of Passerines 433

Gerry M. Dorrestein

Many veterinarians are relatively unfamiliar with the passerines. The aviculture, diagnostic procedures, and common diseases, and their treatment have been discussed in several recent publications. Owners of passerines (songbirds) are using veterinary care in increasing numbers as aviculturists recognize the advances in avian medical and surgical treatment of these patients. This article discusses the bacterial and parasitic diseases of passerines.

Bacterial and Parasitic Diseases of Columbiformes 453

Roger Harlin and Laura Wade

Bacterial and parasitic diseases are not uncommon in domestic doves and pigeons. Many of the bacteria and parasites found in columbids do not

cause disease unless the birds are immunocompromised. Often there are underlying viral infections that contribute to illness. This article focuses on some of the more common infections from a practical clinical point of view. Recent updates from the literature are included.

Bacterial and Parasitic Diseases of Anseriformes

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Glenn H. Olsen

Several bacterial diseases are known to be major mortality factors of waterfowl (ducks, geese, and swans of the family *Anatidae*). Parasitic diseases of waterfowl are quite common but generally are not major mortality factors. However, parasites, if present during other disease outbreaks, can contribute to mortality. From a disease standpoint, the tendency of waterfowl to aggregate in large numbers during postbreeding molt, fall migration, and winter and spring migration can lead to the ready transfer of disease-causing organisms and can lead to high mortality from certain bacterial diseases.

Management of Select Bacterial and Parasitic Conditions of Raptors

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Michelle Willette, Julia Ponder, Luis Cruz-Martinez, Lori Arent, Irene Bueno Padilla, Olga Nicolas de Francisco, and Patrick Redig

Raptors are susceptible to a broad array of established and emerging bacterial and parasitic diseases, including babesiosis, chlamydiosis, clostridiosis, coccidiosis, cryptosporidiosis, malaria, mycobacteriosis, pasteurellosis, salmonellosis, trichomoniasis, and pododermatitis. Many of these conditions are opportunistic and can be easily managed or averted with proper preventive measures related to captive management, husbandry and diet, and veterinary care. Once infected, treatment must be prompt, appropriate, and judicious. This article examines the significance, diagnosis, management, and prevention of select bacterial and parasitic pathogens of raptors.

Bacterial and Parasitic Diseases of Rabbits

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Angela M. Lennox and Susan Kelleher

Bacterial disease is common in pet rabbits; parasitic disease occurs as well but at a much lower frequency. Of these, bacterial diseases of the respiratory tract and dental structures are seen most commonly in practice. Successful treatment depends on positive diagnosis of the disease process and causative agent. This article focuses on the more common bacterial and parasitic diseases encountered in clinical practice.

Bacterial and Parasitic Diseases of Ferrets

531

Lauren V. Powers

The domestic ferret, *Mustela putorius furo*, is a popular companion animal and is used in biomedical research. When compared with other companion mammals, primary bacterial and parasitic infections are less common in domestic ferrets. In countries such as the United States, pet ferrets are

generally kept indoors, and the risk for exposure to primary bacterial and parasitic infectious agents is low. Companion, breeding, and working ferrets are commonly kept outdoors in other parts of the world, placing them at comparatively greater risk for exposure to infectious diseases. This article discusses clinical signs, diagnosis, and treatment of bacterial and parasitic diseases of ferrets.

Parasites of Captive Nonhuman Primates

563

Cathy A. Johnson-Delaney

Parasites of captive nonhuman primates generally are more limited than those reported for field studies and in wild-caught primates. Captive primates include those in zoos, laboratory animal facilities, and private collections or pets. Primates kept indoors generally have few parasites, and those are easily eliminated. Outdoor housing presents problems in breaking life cycles of parasites, particularly those with invertebrate intermediate hosts. Decontamination of soils and substrates also makes total elimination of parasites nearly impossible. For outdoor-housed primates and those in social settings, control can be achieved through regular examination and appropriate administration of antiparasite medication. Because many of the parasites have zoonotic potential, practitioners must be vigilant and educate caretakers about the parasite life cycle and sanitation procedures.

Selected Infectious Diseases of Reptiles

583

Sathya K. Chinnadurai and Ryan S. DeVoe

Bacterial, fungal, and parasitic diseases in reptiles are occasionally caused by primary pathogens, but often are the result of an immunocompromising condition, such as inappropriate temperatures, humidity, or enclosure hygiene. Treating bacterial and fungal diseases usually requires addressing the predisposing husbandry deficiency. Recent comprehensive publications list many reported bacterial, fungal, and parasitic pathogens. This article discusses general methods for diagnosing and treating infectious diseases, and discusses certain diseases in relation to body systems. Special attention is given to recently reported diseases.

Bacterial and Parasitic Diseases of Amphibians

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Eric Klaphake

Whether in private practice or in a zoologic setting, veterinarians of the exotic animal persuasion are asked to work on amphibians. Veterinarians are able to evaluate amphibians thoroughly for medical issues, with infectious diseases at the forefront. Until quite recently, many infectious diseases were unknown or even misdiagnosed as being caused by opportunistic secondary organisms. Although *Batrachochytrium dendrobates* and viral diseases are in the forefront of research for amphibians, parasitic and bacterial diseases often present secondarily and, occasionally, even as the primary cause. Full diagnostic workups, when possible,

can be critical in determining all the factors involved in morbidity and mortality issues in amphibians.

Bacterial and Parasitic Diseases of Pet Fish**609**

Helen F. Roberts, Brian Palmeiro, and E. Scott Weber III

Bacterial and parasitic diseases are very common problems in pet fish. Diagnostic testing for bacterial and parasitic diseases is simple to do; many tests can be done on ambulatory visits. When logical treatment strategies are initiated and supported by diagnostic testing, a successful outcome is possible. Identification of the correct pathogens also allows an educational opportunity for discussions on prevention and biosecurity practices with clients and although fish are poikilothermic, there are some bacterial and parasitic pathogens that are zoonotic.

Bacterial and Parasitic Diseases of Selected Invertebrates**639**

Eric Klaphake

Invertebrate medicine is a rapidly advancing aspect of veterinary medicine, although frustrating in its lack of answers and its limitations compared with vertebrate medicine. Because invertebrates make up 98% of animal life, it should be impossible to contain information on their known bacterial and parasitic diseases within a single article. When the focus is placed on those species commonly kept and treated by non-marine veterinarians, the amount of information becomes manageable. Many exotic species had their known diseases and treatments start this way and then advanced to a higher level of understanding. This article stands as an introduction to the parasitic and bacterial diseases of these fascinating creatures for the veterinary practitioner.

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