Cnemidocoptic Mange (Scaley Face) in Budgerigars

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Introduction

External parasites on pet birds are rarely seen, with the exception of mites of the genus *Cnemidocoptes*, which are relatively common. These mites cause a disease condition termed Cnemidocoptic mange, commonly termed scaley face or scaley leg, which has been a disease of varying importance in poultry since the early 19th century. It has been reported from all parts of the world and in numerous species of birds. It is most frequently seen in budgerigars and canaries and can be a serious problem if not properly treated.

Changes Caused by the Disease (Pathogenesis)

Birds of both sexes and all ages are affected, however, young adults are most often affected. The mites cause scaley face lesions of the cere, beak, and around the eyes in budgerigars. In canaries, lesions of the legs are far more common than on the face.

The lesions develop slowly, appear crusty, and upon close inspection are pitted or honeycombed. The condition is proliferative and the crustiness/scaliness can worsen leading to disfiguring lesions of the face, beak, vent or legs. In advanced cases the nostrils can become blocked. Long-standing infections can spread elsewhere, as we have seen birds with lesion on the wings.

In severe cases there is interference with the growth of the beak, especially the upper beak, which results in deformity. The beak quality deteriorates, becomes thicker than normal and begins to flake off. Damage to the growth area of the beak causes it to grow at different rates and may result in the formation of a straight, up-turned, deviated, wry or scissor-crossed beak. This may lead to the inability to eat with resultant starvation.

The crustiness of the lesion is caused by the exudate produced by the bird in response to the irritation from the mites. Skin debris is also accumulated as the mites burrow into the tissues. With magnification one can see the entire area to be a honeycomb of burrows. The presence of the mites does not appear to irritate the bird since scratching and biting of the crusty lesions is seldom observed.

Diagnosis

Diagnosis of Cnemidocoptic mange is usually through the direct visualization of the characteristic lesions. For absolute verification, scrapings of the crusty lesions can be done and examined under the microscope to demonstrate the stubby-legged mites and eggs which are also present.

Transmission

The transmission of the disease is an area of debate. An isolated bird kept indoors with no other contact with birds could spontaneously develop the disease at five years of age, for example. It has been suggested that the disease may be transmitted slowly between adult birds, however, we have seen on many occasions a heavily infected bird with a normal appearing cage mate.

The mites themselves live their entire life cycle on the bird itself with no free-living stages found in the cage, as with the red mite. The mites burrow into the skin in featherless areas and feed on underlying connective tissue. They will lay their eggs in the skin.

The most commonly accepted theory of transmission is that the mites are passed from the parents to the nestlings during feeding while the babies are in featherless stage. Thus these birds will always be carrying the mites on their skin. The presence of a normal body defense (immune) system keeps the mite population in check so that they pose no problem. However, with the onset of stress, or a compromise of the immune system or even from the presence of an underlying disease condition, the mites can overgrow and cause the disease to develop.

Conditions That May Predispose to Disease Development

Molting is a time of stress for a bird and many times we have seen a mange situation concurrent with the molt. As it is known, other diseases (such as respiratory and intestinal) can develop during the molting period due to the compromise of the system of the bird at this time. It is therefore suggested to provide optimal conditions during the molt, plenty of rest, heat, protein, vitamins, and minerals to help maintain the body defenses.

We have frequently seen hypoproteinemia (low blood protein) in birds affected with mange. Perhaps protein levels play a role in the resistance to the disease. Good nutrition and protein supplementation are always essential for maintenance of health.

The one-celled parasitic organism, *Giardia*, is an extremely common parasite of budgerigars and very frequently will be found in the droppings of birds afflicted with mange. As it is an intestinal parasite, it may reduce the absorption of nutrients from the digestive tract leading to nutritional deficiencies, low blood protein levels and hence lowered resistance. Proper treatment of this parasite with veterinary supervision will lead to its elimination.

It has also been surmised that some birds that suffer from mange may have a genetic predisposition (heredity) for the development of the disease. Perhaps it is due to a weakened immune system from birth or some other unidentified factor.

It can be garnered from the preceding discussion that by keeping your birds in optimal nutritional condition and free from sickness and stress, you can decrease the likelihood that mange, and other diseases, as well, will develop.

Treatment

The drug Ivermectin has revolutionized the treatment of mange. The drug is safe and effective. Usually one treatment, an intramuscular injection or topical application of the drug will eliminate the disease, but two treatments two weeks apart is preferred. Within two weeks the scales will be loosening as the mites die. However, severe beak changes may be irreversible depending upon their degree. Most are correctable through repeated and cautious grinding/shaping of the beak as normal beak growth patterns after elimination of the mites. The sooner the condition is treated the less severe the beak changes can become.

Previously, treatment of the condition involved the use of topical insecticides containing orthophenylphenol, rotenone (Goodwinol), crotomiton (Eurax) and others. Before we implemented Ivermectin we used Eurax with reasonable success. However, all sites of infestation needed to be treated directly and care taken to avoid the feathered areas. Ointments and creams should never be applied to feathers as they will spread all over the feathers and reduce their insulative properties. When using topical treatments follow the recommended treatment and do not over treat as problems could develop.

Some sources advocate the removal of the crusts following softening with mineral oil. Once again, care must be taken due to the oil and also, if the crusts are not carefully removed, hemorrhage or disfigurement could result. Remove only those crusts that are easily removable. A product called Scalex is available over the counter which can eliminate the mites. However it can be extremely irritating and must be used carefully and sparingly as we have seen severe problems develop due to its improper usage.

Summary

Hopefully this information will aid in your understanding of a very common and bedeviling condition of budgerigars. It also serves as a demonstration of how important proper nutrition is to the maintenance of a long, trouble-free and healthy life for our pet birds. If you suspect a problem may exist contact your pet store or veterinarian. Even if all seems well yearly physical examinations are recommended for all birds to detect low grade or underlying disease conditions.