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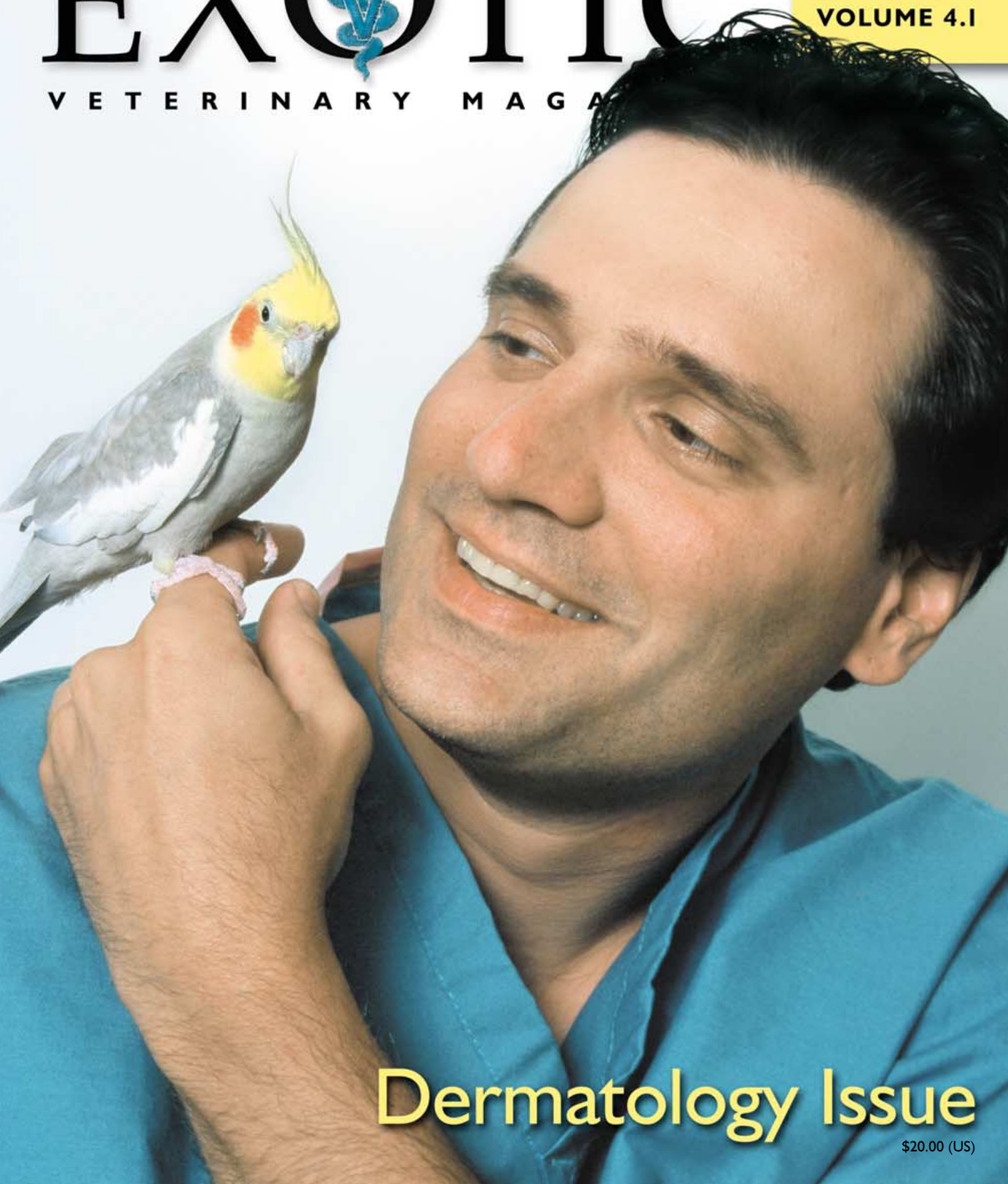

Dermatology Issue

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OBSERVATIONS FROM THE FIELD

OBSERVATIONS FROM THE FORUM

CLINICIAN'S NOTEBOOK

DEPARTMENTS

Common Dermatologic Disorders of Pet Rodents

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SOME OF THE MOST COMMON DERMATOLOGIC LESIONS OF PET rodent species (with the exception of the hamster*) are presented here.

Normal Skin

Before performing a physical examination on pet rodents, it is important to know the normal condition of selected species and breeds to avoid unnecessary diagnostic testing and therapy.

In a hairless mouse, alopecia involving the entire body skin is normal and genetically determined.

The gerbil (like the Russian hamster, *Phodopus sungorus*) presents an alopecic area on the ventral midline, which is due to the normal presence of scent glands.

The area covered by shorter and darker hairs in this prairie dog is due to normal hair regrowth after molting.

* For hamster skin disorders, see Capello V: Pet hamster medicine and surgery, part III: Infectious and parasitic diseases. Exotic DVM 3(6):27-32, 2002, and in upcoming articles in this series.

Dermatomycosis

In my experience, dermatomycosis is the most common dermatologic disease affecting pet rodents (and also rabbits). The most common etiologic agents are *Trichophyton mentagrophytes* and *Microsporum* spp. (*M. canis, M. gypseum*). Alopecic skin may be more or less pruritic, and the condition may be complicated by moist or ulcerating dermatitis due to infection by non-specific bacteria (e.g., *Staphylococcus* spp., *Streptococcus* spp.).

A diagnosis of mycosis can be made after introducing a fur sample onto Sabouraud's agar with chloramphenicol and actidione added to inhibit saprophytic fungi. The species is identified by microscopic examination of the hyphae. Because dermatologic cultures require at least 10-12 days for growth, topical therapy is usually started based on clinical signs. Dermatomycosis can spread very quickly in a few days (especially in chinchillas), making therapy difficult and the prognosis for cure uncertain. Griseofulvin alone (50 mg/kg q24h in most rodents, 25 mg/kg in chinchillas, up to 100 mg/kg in guinea pigs) is not sufficient to resolve the disease in most cases. Associated topical treatment with enilconazole solution, diluted to 0.2% and applied daily or every other day, is recommended. The owner should be taught to dilute and correctly apply the solution. Therapy usually lasts longer in rodents than in other pets due to the difficulty or impossibility of preventing self-licking or self-scratching with a traditional Elizabethan collar. Treating dermatomycosis in chinchillas can be very challenging.

Prognosis in the striped chipmunk, *Tamias striatus*, is guarded due to the extreme difficulty of manual restraint. In certain cases, it may be necessary to perform topical treatment 2 times per week under isoflurane anesthesia.

The typical appearance of dermatomycosis on the back of a guinea pig.

Dermatomycosis in a chinchilla.

Dermatomycosis in a prairie dog.

Dermatomycosis in a striped chipmunk on the back, on the hind foot, and complicated by severe dermatitis.

Mange

Mange represents the second most common dermatologic disease in pet rodents in my clinical practice. Demodicosis is caused by mite species affecting specific rodents — e.g., *Demodex merioni* in gerbils, *D. criceti* in hamsters, *D. caviae* in guinea pigs and chinchillas (although demodicosis is rare in these two species) — or others less specific (e.g., *D. aurati*).

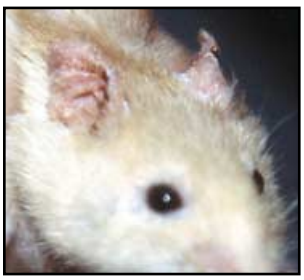
Sarcoptic mange is caused mainly by *Sarcoptes scabiei*, *Notoedres muris* and *Myobia musculi*. The most common agent in guinea pigs is *Trixacarus caviae*, but *Cheyletiella parasitivorax* is reported.

Clinical signs of mange include alopecia, broken hairs, reddened skin and red crusts due to self-scratching or self-biting, and other crusts due to hyperkeratinization of the skin. The skin is more thickened in cases of sarcoptic mange than in cases of demodicosis. The rodent usually appears depressed, highly pruritic (less so in cases of demodicosis in which the animal may sometimes be non-pruritic) and anorexic in severe cases.

Diagnosis is performed by microscopic detection of the agent following skin scrapings. In performing this examination, particular attention should be paid to small patients (mice, gerbils and Russian hamsters). If thick and abundant crusts are present, a sample of these crusts can be dissolved in a KOH solution to easily detect ectoparasites. Dermatomycosis should be considered in the differential diagnosis.

The treatment of choice is administration of ivermectin at a dose of 0.2-0.5 mg/kg SC or PO in tiny patients (I recommend the higher dose). This treatment is extremely effective and safe. The treatment is repeated two times at 4- to 7-day intervals.

In cases of demodicosis, amitraz diluted to 0.1% can be used topically with extreme caution (due to its potential toxicity), if the owner is able to prevent the animal from licking itself for at least 30 minutes after the application.



Crusts on the ears caused by *Notoedres muris*.

Mange caused by *Trixacarus caviae* in a guinea pig.

Sarcoptic mange in guinea pigs.

Tail Necrosis

Necrosis of the tail is common in small-sized rodents with a long tail (e.g., mice, gerbils). I have not seen this lesion in hamsters. The lesion is hypothetically due to low environmental humidity predisposing to skin dehydration and aseptic necrosis, which occurs spontaneously without other clinical signs. This is different from the tailslip that is experienced when a rodent is grasped by the tip of the tail. Tail amputation is the best choice of treatment.

Tail necrosis in a gerbil.

Tail necrosis in a mouse.

Chromodacryorrhea

Chromodacryorrhea is commonly seen in rats and mice. The reddish staining around the eyes that characterizes this condition is the result of the hypersecretion of porphyrins by the Harderian glands following stress, overcrowding or other pathologic conditions. For this reason, the clinician should not consider this clinical sign to be a primary pathology. The common complaint is a suspected hemorrhage from the eye, but the color is due to red-pigmented porphyrins, not blood. The differential diagnosis can be made microscopically, where the absence of erythrocytes distinguishes chromodacryorrhea from hemorrhage.

Treatment consists of cleaning the eyes; ointments are usually not necessary. Also, it is mandatory to remove the causes of stress, improve general conditions in the cage and resolve other concurrent diseases, if present.

Chromodacryorrhea in a mouse.

Nasal Dermatitis

A nasal dermatitis somewhat similar to chromodacryorrhea occurs in gerbils. It is commonly called "sore nose." Alopecia, erythema and crusts affect the skin area around the nose. This condition is assumed to be primarily due to the hypersecretion of porphyrins, which are irritating to the skin, but repeated trauma may also be involved. When a gerbil is housed in a wire cage, it may chew relentlessly at the wires and damage the nose as well as the adjacent skin. This predisposing factor is demonstrated by complete recovery after the gerbil is moved into a Plexiglas® cage. When alopecia due to rubbing is the only clinical sign, it is called "bald nose."

Sore nose in a gerbil.

Pododermatitis

Pododermatitis ("bumblefoot") is a common disease in guinea pigs. Severe and painful swelling or ulceration affects the palmar surfaces of the forefeet more frequently than the plantar surfaces of the hindfeet. Nonspecific bacteria, such as *Staphylococccus* and *Streptococcus* spp., can penetrate lesions and cause secondary abscessation and osteomyelitis. The primary predisposing factors for the development of pododermatitis are obesity and improper bedding. The lesions are very painful, and affected guinea pigs are usually unable to walk and often become anorectic.

Surgical debridement of the ulcerated or abscessed area, flushing with saline, application of topical antibiotics and bandaging are mandatory along with systemic antibiotic therapy. Prognosis is always guarded, and healing takes weeks. In chinchillas, pododermatitis occurs less frequently than in guinea pigs and most commonly affects the palmar surface of the hindfeet, as in rabbits.

Pododermatitis in a guinea pig.

Pododermatitis in a chinchilla.

Fur Ring

Male chinchillas can develop a small but firm hair ring at the base of the penis. This particular skin condition may occur in any male, whether it is housed with a female for mating or not. The fur ring can cause paraphimosis, and sometimes the fur ring is hidden under the prepuce.

Clinical signs are nonspecific. The chinchilla may frequently groom or lick the inguinal area, but sometimes the only clinical sign is depression. Clinical examination of male chinchillas should always include inspection of the penis under the prepuce.

The treatment, which sometimes requires anesthesia, consists of application of a lubricant and subsequent unrolling and removal of the fur ring. The clinician should not try to cut the fur ring with scissors unless the animal is anesthetized. The owner should be taught to periodically check the penis at home.

Chinchilla fur ring.

Abdominal Gland Disease

Abdominal glands of gerbils can be affected by inflammatory or neoplastic pathology. Local and systemic antibiotic therapy is usually not sufficient to resolve ulceration because of the impossibility of maintaining an Elizabethan collar. The treatment of choice is excision of the affected skin area.

Abdominal gland neoplasia.

Ulcerated abdominal glands.

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