Mycotic Dermatitis in a Black Ratsnake

Mykotische Dermatitis bei einer schwarzen Rattenschlange

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Summary: A mycotic dermatitis in a black ratsnake (Elaphe obsoleta) was described. The snake has been in captivity since June 1978. The lesions were in the form of dull and roughened scales. They expanded and coalesced to involve several areas of the body. Mycological examination of the scales revealed fungus infection. The isolate was identified as Monilia sitophila. The lesions were cured satisfactory with Panalog® and Tinavet®.


Mycotic infections in reptiles have been reported involving a variety of etiologic agents and host tissues (Simmons et al., 1973, Zwart, 1973, Frye and Dutra, 1974, Migaki et al., 1975, Montali et al., 1915, Trevino, 1975, Anver et al., 1976, McKenzie and Green, 1976, Shalev et al., 1977, Sindler et al., 1978). The present paper deals with skin fungus infection in a black ratsnake (Elaphe obsoleta).

History

The snake, a three-foot long male black ratsnake, was captured in North Carolina in June of 1978. It appeared normal at that time and fed readily on mice. In August the snake was brought to Iowa and placed in a private collection. It was housed in a wooden cage with a glass front, containing a water dish, dead tree limb, cardboard box retreat, and an incandescent light to maintain the temperature at 80°F. During the next two months the snake ate normally and experienced a normal ecdysis. The snake spent a majority of the time coiled in the water dish which it preferred to the retreat, but this was not considered a problem. In late September the snake ceased feeding, not uncommon in temperature climate species at that time of year. However, in early October it was noticed that scales in several areas of the body looked dull and roughened (fig. 1). Blister disease in the early stages was suspected and therapy initiated with 5 mg. Chloramphenicol intramuscularly once a day for 5 days and Bacitracin/Neomycin ointment topically every other day. During this period the water dish was removed and the snake allowed access to water only one hour a day. On the third day of treatment the snake fed.

Key words: Monilia sitophila; ratsnake, mycotic dermatitis in a.
After two weeks, each of the original lesions had expanded and coalesced while several new lesions had developed. It appeared that the epidermis of the scale involved would loosen and slough, revealing a roughened, dry, dull dermis. The loose scales would come off when the snake was handled and many were found on the cage floor.

**Materials and Method**

Several loose scales were obtained from the snake with the aid of sterile forceps. For the native preparation some of the scales were placed in two drops of KOH, gently heated, and then examined microscopically. The rest of the scales were then inoculated into Sabouraud's glucose agar slants and incubated at room temperature.

**Results and Discussion**

Direct microscopic examination of the native preparation revealed several round, lightly colored, fungal spore-like structures (2–5 μ in diameter) that were aggregated at the periphery and base of each scale (fig. 2). The cultural procedure showed after a few days a rapidly-growing, truly filamentous growth that filled the inoculated medium.
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Fig. 3: 5 day old growth of Monilia sitophila on Sabouraud's dextrose agar.

Fig. 4: Microstructure mount preparation of the grown fungus in Lactophenol cotton blue.

test tubes in 6 days. The growth appeared white, flat, and thinly covering the agar surface. Later fluffy areas developed, especially at the upper part of the tube, and the color changed to salmon (fig. 3). Microscopic examination of the culture at different incubation periods showed ovate conidia produced by continuous budding of branching conidiophores that arose from the mycelium (fig. 4). The spores were easily dissociated and portions of the vegetative mycelium broke up at the septa forming thick-walled arthrospores. According to the criteria mentioned in the literature the isolate was identified as Monilia sitophila.

After the mycological findings, therapy was changed to Panalog® a nystatin-containing ointment, topically every other day. This slowed the spread of the lesions but did not stop their progress entirely. Tinavet® brand of tolnaftate was added to the therapy on alternate days. Four weeks later, the lesions are quiescent and the snake continues to feed normally.

Mycotic infections in reptiles are not infrequently reported. Aspergillus sp., Paecilomyces fumoso-roseus and Beauveria bassiana have been associated with pulmonary infections in turtles (Hunt, 1951, George et al., 1962). Cephalosporium sp. was isolated from Calmous showing pneumonia and necrotic hepatitis (Trevino, 1972), as well as from a swelling of the digestive tract of a snake (Rodhain and Mattlet, 1950). Fungi of

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the class Phycomycetes have been found in granulomatous masses from a snake exhibiting chronic wasting illness (Sindler et al., 1978), and in a case of enteritis and colonic intussusception in a chameleon (Shalev et al., 1977). Cladosporium sp. was identified from an anaconda with stomatitis and secondary osteomyelitis (Marcus, 1971), while Fusarium oxysporum was responsible for bilateral ocular infection in a rainbow boa (Zwart et al., 1973).

Skin fungus infections in reptiles, however, have been less frequently reported. There are reports of subcutaneous nodules in Australian beaded lizards and cutaneous swellings in a marble lizard from which Dermatophilus congolensis was recovered (Simmons et al., 1972, Montali et al., 1975, Anver et al., 1976). Fusarium oxysporum has been associated with chronic dermal lesions in a chameleon (Zwart et al., 1973) and Geotrichum candidum was identified from necrotic skin lesions in a carpet snake (McKenzie and Green, 1976). A fungal dermatitis caused by a member of the class Phycomycetes was recently reported in an eastern indigo snake (Werner et al., 1978).

References


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Neu gegen entzündliche Mykosen:

Kurzfristig die Entzündung lindern:
Travocort 15 g zur Initial-Therapie

Langfristig die Ursache beseitigen:
Travogen 50 g zur Anschluß-Therapie

Travogen-Kombipackung