

FUNGAL DERMATITIS IN A PYTHON

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A 5.5-year-old male carpet python was presented for skin problems. On physical examination, the python had multiple approx. 1–3cm diameter skin lesions characterised by depigmentation, mild erythema and crusts. The lesions were present predominantly over the cranial two thirds of the dorsum. Additional diagnostics were declined at this stage and an empiric course of antibiotics was prescribed for a possible bacterial dermatitis.

The python presented approximately 2 months later as the lesions had worsened; they were moderately erythematous, ulcerated and painful on palpation (*Figure 1*).

Skin biopsies were recommended. Apart from mild monocytosis and creatine kinase elevation, haematology and biochemistry were unremarkable. The python was anaesthetised, and multiple skin biopsies were taken and submitted for histopathology.

Histopathology report from Dr David Taylor at Vetnostics:

Microscopic examination

Multiple skin sections are ulcerated and covered by thick serocellular crusts. Within the crust and associated debris are numerous slender 4–5µm basophilic, septate fungal hyphae that show occasional acute angle branching together with scattered round to cylindrical arthroconidia. Some of the hyphae invade the superficial dermis and are accompanied by infiltrates of heterophils, lymphocytes, plasma cells and macrophages. Also present in several areas of the crust are colonies of tiny coccobacilli. Hyphae are also noted within keratin and epidermis in areas that are not ulcerated.

Summary

Severe ulcerative and necrotising fungal dermatitis

Comment

Extensive fungal infection is confirmed. Some of the hyphal features resemble infection by

Ophidiomyces ophidiicola, but culture and possibly PCR testing is necessary for confirmation.

Treatment

While awaiting PCR results, treatment was started with terbinafine nebulisation (as described in Kane *et al*, 2017), using terbinafine powder dissolved in sterile saline. This treatment is used in snakes, including vipers, in North America for treatment of *Ophidiomyces ophidiicola*. However, the owner found that there was a large amount of residual terbinafine powder in the nebuliser chamber. Therefore, the treatment approach was changed to dissolving the powder in a small spray bottle, spraying the contents all over the python and allowing it to dry, which resulted in a more complete delivery of the terbinafine. In addition, terbinafine cream was applied to the worst affected lesions.

Multiple PCR tests were attempted, including for *Ophidiomyces*, however, these failed to identify the fungus species.

Eight weeks after treatment, the skin lesions were significantly improved (*Figure 2*). Terbinafine was continued for a total of 3 months by which time all the lesions had healed, apart from a few scars that remained where the lesions were most severe.

It would have been great if the fungal species in this case was identified. It would have been great if a sample was submitted for fungal culture and a repeat sample obtained to demonstrate that an end goal of treatment was achieved. However, we will take this one as a win! Since this was a non-venomous snake that was easily handled, terbinafine spray was a practical option.

Over a year since treatment there has been no recurrence of the skin lesions (*Figure 3*) ♦

Reference

Kane LP, Allender MC, Archer G, Leister K, Rzakowska M, Boers K, Souza M, Cox S. Pharmacokinetics of nebulized and subcutaneously implanted terbinafine in cottonmouths (*Agkistrodon piscivorus*), *J Vet Pharmacol Ther*. 2017 Oct;40(5):575-579.



Figure 1. Lesions prior to treatment



Figure 2. The patient, 8 weeks after treatment



Figure 3. 1 year post treatment. Looking good!