

Comparison of two systemic antifungal agents, itraconazole and terbinafine, for the treatment of dermatophytosis in European hedgehogs (*Erinaceus europaeus*)

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Background – Dermatophytosis caused by *Trichophyton erinacei* is a common scaling and crusting skin disease affecting European hedgehogs (*Erinaceus europaeus*) admitted to wildlife rescue centres. The application of topical therapy can be challenging because wild hedgehogs are subject to stress and often roll into a ball when handled. Systemic antifungal therapy is more convenient but has not been evaluated in this species.

Hypothesis/Objectives – To compare the efficacy of oral itraconazole versus oral terbinafine for the treatment of dermatophytosis affecting hedgehogs.

Animals – A treatment trial was undertaken in a wildlife hospital involving 165 hedgehogs with naturally occurring dermatophytosis.

Methods – Animals were randomly divided into two groups and treated with either itraconazole or terbinafine orally for 28 days. The therapeutic efficacy was evaluated after 14 and 28 days by mycological culture and clinical dermatological lesion scores.

Results – Both drugs were well tolerated and clinically effective. After 14 and 28 days of treatment, the respective mycological cure rate was 36.6% and 65.9% for the itraconazole-treated group and 92.8% and 98.8% for the terbinafine-treated group.

Conclusion and clinical importance – Itraconazole and terbinafine were both effective for the treatment of dermatophytosis affecting hedgehogs; however, terbinafine was more effective.

Introduction

European hedgehogs (*Erinaceus europaeus*) suffering from injury, disease and malnutrition are frequently admitted to wildlife rescue centres.^{1–3} Dermatophytosis is a common skin disease affecting hedgehogs both in the wild and during rehabilitation,^{4,5} with most infections caused by the zoophilic species *Trichophyton erinacei* and other species occasionally reported (*Microsporum canis*, *M. gypseum*, *M. cookei* and *T. schoenleinni*).^{6,7} Many infections are subclinical and up to 25% of free-living hedgehogs may be asymptomatic carriers.⁸ As in other species, pathogenicity is probably dependent on host factors such as reduced immunity, malnutrition, stress and concurrent disease.^{9,10} The presentation is variable and

hedgehogs may exhibit focal, multifocal or generalized alopecia,^{8,11} with scaling and crusting lesions resulting in matted hairs or scale around the base of spines (Figure 1).^{5,12} Lesions are seldom pruritic unless accompanied by bacterial pyoderma or ectoparasites. Infection is probably self-limiting, although there is no recorded evidence of natural remission of dermatophytosis affecting hedgehogs.^{5,8,13}

Fungal culture is necessary to confirm the diagnosis^{5,14} because diagnostic fungal structures are not always visible on microscopic examination of hairs and spines,¹⁵ and *Trichophyton* spp. do not fluoresce under ultraviolet illumination.^{10,16}

The treatment of affected hedgehogs in rescue centres is justified both on welfare grounds and to reduce contamination of the environment with fungal spores. Human infection can arise from contact with hedgehogs or contaminated bedding, and is one of the most common zoonotic infections of wildlife rehabilitators.¹⁷

To the best of the authors' knowledge, there have been no published studies evaluating the efficacy of antifungal agents for the management of dermatophytosis in hedgehogs. Topical preparations are widely used, but

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Figure 1. Trichophytosis in European hedgehog (a) facial alopecia and crusting, (b) scale around the base of spines.

their application is hampered by the hedgehog's dense multidirectional spines and their defensive tactic of rolling into a ball.¹⁸ Washes containing lime sulfur or enilconazole can be effective against dermatophytes;⁵ however, washing hedgehogs can be difficult, stressful for the animal and increases the zoonotic risk to the handler.^{5,18} Some body regions, particularly the head and ventrum, may be accessible only when the animal is under anaesthesia,¹⁹ which increases the risk of fluid inhalation and hypothermia.

The results of topical antifungal therapy used as sole treatment can be disappointing due to inadequate penetration into keratinized tissues including the sheaths of spines and hairs.^{10,16,20} Systemic therapy is generally more effective and convenient, and reduces the need for additional animal handling. Griseofulvin has previously been used to treat dermatophytosis in hedgehogs^{11,21} but is no longer recommended due to concerns about safety and efficacy.^{16,22}

The aim of this study was to compare the efficacy of two alternative oral antifungal agents in hedgehogs naturally infected with *T. erinacei*: itraconazole, an azole antifungal licensed in the UK for the treatment of dermatophytosis in cats, and terbinafine, an allylamine antifungal with a wide safety margin and good efficacy against *Trichophyton* spp.²³ The treatment responses were evaluated using mycology culture results and clinical monitoring of dermatological lesions.

Methods

The trial included wild hedgehogs admitted to a wildlife hospital between 2008 and 2011; all had dermatological disease due to natural dermatophyte infection confirmed by fungal culture and none had received any previous antifungal treatment. Adults and juveniles were differentiated by their body length and weight,²⁴ and sexed according to the external genital appearance.¹¹ They were housed indoors and kept individually in plastic tubs. Staff followed protocols to reduce fungal contamination, including daily changing of newspaper bedding and thorough disinfection of the tubs (with Safe4 disinfectant, Safe Solutions Ltd; Winsford, UK). A single ectoparasite treatment was given to all hedgehogs at the beginning of the trial using spot-on permethrin (Xenex Ultra Spot On, Dechra Veterinary Products Ltd; Shrewsbury, UK).

Animals were randomly assigned to a treatment group according to the parity of a computer-generated admission number. The treatments, either itraconazole 10 mg/mL oral solution (Itrafungol, Elanco Animal Health; Basingstoke, UK) at a dose of 10 mg/kg twice daily, or crushed terbinafine tablets (Lamisil, Novartis Pharma AG; Basel, Switzerland) at a dose of 100 mg/kg twice daily were administered in a small quantity of highly palatable food (Hill's a/d prescription diet, Hill's Pet Nutrition Inc.; Topeka, KS, USA). The treatment trial lasted 28 days, but treatment was continued as necessary in hedgehogs that remained culture positive at the end of the trial period. Animals were monitored for a minimum of 3 weeks after cessation of treatment for any recurrence of dermatological lesions.

The food intake and body weight of the hedgehogs were monitored daily and their environment inspected for diarrhoea, vomitus and shed spines or hairs. They were examined by one of the investigators on days 0, 14 and 28, and their dermatological lesions graded using a simple scoring system enabling assessments to be performed rapidly with minimal stress to the animal (Table 1). At the same time, samples of hair, spines, scale and crusts were collected from several different sites along the periphery of lesions using sterile forceps. Where no specific lesions could be identified, a general brushing of the body was performed using a sterile toothbrush (MacKenzie brush technique). Samples were submitted to an external laboratory for dermatophyte culture by inoculation onto Sabouraud's dextrose agar with chloramphenicol and actidione, and incubated aerobically at 26–30°C according to a standard technique. Plates were inspected every other day for fungal growth, and remained in incubation for a total of 21 days (although no positive growth was identified after 14 days). *Trichophyton erinacei* was identified by macroscopic colony morphology and microscopic appearance.²⁵

Table 1. Scoring system for clinical assessment of dermatological lesions in hedgehogs with fungal infection (maximum score = 10)

Clinical presentation	Score
Alopecia	
Absent	0
Solitary small focal lesion	1
Larger solitary focal lesion or mild multifocal alopecia with localized distribution	2
Moderate multifocal or diffuse alopecia	3
Severe multifocal or diffuse alopecia	4
Scaling and crusting	
Absent	0
Focal area of scaling or crusting	1
Mild multifocal areas of scaling or crusting	2
Moderate multifocal areas of scaling and crusting	3
Diffuse generalized exudation/severe crusting and scaling	4
Dermatitis	
Absent	0
Minimal skin inflammation/erythema	1
Moderate to severe skin inflammation	2

The primary endpoint for assessing treatment efficacy was mycological cure indicated by negative fungal culture; a chi-square test was used for comparison of the two groups. Changes in the mean lesion scores were used to assess the clinical resolution of disease and these were compared using Wilcoxon–Mann–Whitney U-tests. Statistical analyses were performed using SPSS v9.0 (SPSS Inc.; Chicago, IL, USA).

Results

Treatment groups

The trial included a total of 165 hedgehogs; 82 hedgehogs were included in the itraconazole-treated group and 83 hedgehogs in the terbinafine-treated group. The distribution of sexes and body weights were similar in both groups, but there was a higher proportion of adults in the terbinafine-treated group (21.7% of the total compared to 7.3% adults in the itraconazole-treated group).

Adverse effects

Adding the treatments to food resulted in no detectable effect on palatability and there were no observable adverse effects affecting hedgehogs during the trial.

Clinical lesion scores

Mean lesion scores in both treatment groups on Day 0 were statistically similar (5.38 out of 10 for itraconazole-treated group and 5.20 out of 10 for terbinafine-treated group) and there was a significant clinical improvement in both groups demonstrated by improving lesion scores over the trial period (Table 2). Statistical analysis revealed there was no significant difference in the clinical lesion scores between the two treatment groups (Wilcoxon–Mann–Whitney U-test, $P < 0.05$). The severity of disease at the start of the trial, based on lesion score, did not significantly affect treatment outcome.

Dermatophyte culture results

The results are summarized in Table 2. All dermatophytes from hedgehogs were identified as *T. erinacei*. After 14 days of treatment, the mycological cure rate was 36.6% in the itraconazole-treated group and 92.8% for the terbinafine-treated group. After 28 days, the cure rates were 65.9% for the itraconazole-treated group and 98.8% for the terbinafine-treated group. The difference in the mycological cure rate was significant at both 14 and 28 days (χ^2 test, $P < 0.05$).

Further results

Treatment continued beyond the 28-day trial period for 29 hedgehogs that remained culture-positive at the end of the study period ($n = 28$ in the itraconazole-treated group and $n = 1$ in the terbinafine-treated group). Fungal cultures were repeated after 42 days of therapy and remained positive for 12 hedgehogs; all from the itraconazole-treated group.

Discussion

All hedgehogs in this study were affected with *T. erinacei* consistent with previous reports regarding the natural disease in hedgehogs.⁷ A greater proportion of juvenile hedgehogs were affected, compatible with the age-related dermatophyte susceptibility reported in other species.^{9,10,23} A previous study reporting an increased frequency of dermatophyte infection affecting hedgehogs over 1 year old evaluated the incidence of infection rather than clinical disease.⁸

The dosage regimens of itraconazole and terbinafine administered to hedgehogs in the present study were extrapolated from other species by conversion into mass-specific minimum energy costs (SMEC dose in mg/kcal) according to allometric principles.^{26–28}

The recommended dosage of itraconazole for the treatment of dermatophytosis and *Malassezia* dermatitis in cats is 5–10 mg/kg, equivalent to an SMEC dose of 0.10–0.20 mg/kcal.^{20,23,29,30} An SMEC dose of 0.10 mg/kcal was used to calculate the dose used in the current trial for hedgehogs resulting in a dose calculation of 10 mg/kg twice daily. This compared favourably with the published dose of 5–10 mg/kg once or twice daily reported for the closely related African Pygmy hedgehog (*Atelerix albiventris*).¹⁸

In comparison, the SMEC dose range for terbinafine based on published data for other species showed greater variation (0.61–1.52);^{31–36} however, as terbinafine has a wide margin of safety and higher doses are generally regarded as being necessary to treat dermatophytosis,^{23,32,33} a relatively high SMEC dose of 1.0 mg/kcal in hedgehogs, equivalent to the dose used in dogs for the treatment of *Malassezia* dermatitis, was selected.^{34,36} There are no published reports regarding the use of terbinafine for hedgehogs for comparison.

Allometric scaling is based on the assumption that the same SMEC dose is applicable to all species and no allowance is made for species differences in

Table 2. Summary of mycology and clinical results for hedgehogs with *Trichophyton* infection

Treatment group	Age class	No.	Mean body weight (range) grams	Number of negative fungal cultures (%) mycology cure rate		Mean lesion score			Difference between mean lesion scores (% clinical improvement)	
				Day 14	Day 28	Day 0	Day 14	Day 28	Day 0–14	Day 0–28
Itraconazole	Adult	6	607 (403–826)	1 (16.7%)	4 (66.7%)	5.46	3.54	1.42	1.92 (35%)	4.04 (74%)
	Juvenile	76	256 (133–488)	29 (38.2%)	50 (65.8%)	5.34	3.26	1.14	2.08 (39%)	4.20 (78.7%)
	Total	82	296 (133–826)	30 (36.6%)	54 (65.9%)	5.38	3.35	1.23	2.03 (37.7%)	4.15 (77.1%)
Terbinafine	Adult	18	615 (443–896)	16 (88.9%)	17 (94.4%)	5.00	2.36	0.84	2.64 (52.8%)	4.16 (83.2%)
	Juvenile	65	256 (120–487)	61 (93.8%)	65 (100%)	5.23	2.84	1.0	2.39 (45.7%)	4.23 (80.9%)
	Total	83	335 (120–896)	77 (92.8%)	82 (98.8%)	5.2	2.8	0.98	2.4 (46.2%)	4.22 (81.2%)

pharmacokinetics.^{26,27,37} The results of allometric calculations are most accurate for drugs with simple blood-flow related clearance.³⁷ Both itraconazole and terbinafine undergo hepatic metabolism and could be considered relatively poor choices for allometric scaling.³⁸ Despite this, the dosages used for both drugs for hedgehogs in this study appeared to be safe and effective.

There are no published pharmacokinetic studies regarding the use of systemic antifungal drugs for hedgehogs; however, the potential adverse effects of both agents have been documented in other species. Azoles can cause hepatotoxicity, especially at high doses and with prolonged therapeutic courses, but the risk associated with itraconazole is considered to be relatively low.¹⁴ The drug is well tolerated in dogs and cats with transient appetite loss and vomiting, and ulcerative dermatitis reported as adverse effects.^{14,16,39} Oral terbinafine is also well tolerated in dogs and cats with rare gastrointestinal adverse effects such as vomiting and diarrhoea reported.^{23,31,33,34,36} Cutaneous reactions and chemosis with conjunctival erythema also have been reported.^{40,41}

Hedgehogs in this study demonstrated no adverse effects with either drug. Both drugs were administered with food which may have reduced the risk of gastrointestinal disturbance.³³ Food intake was regarded as a suitable indicator of hepatic adverse effects because appetite is typically reduced when liver enzymes are elevated.³⁹ Serum biochemical monitoring was not performed due to the practicalities of blood collection in this species and the associated handling and stress involved.

Systemic antifungal therapy is often considered the treatment of choice for dermatophytosis in combination with environmental decontamination, barrier nursing and ectoparasite control.^{20,23,29} Additional considerations when treating wild animals undergoing rehabilitation are minimizing stress and human contact, and a rapid return to their natural environment. Optimum treatment for dermatophytosis in these circumstances should be able to be administered easily without requiring additional handling and should produce a rapid clinical and mycological cure.

Both drug treatments were effective for the management of dermatophytosis affecting hedgehogs with no statistical difference between the clinical lesion scores between the two treatment groups. However, terbinafine was more effective at eliminating fungi from the skin and hair, resulting in a mycological cure after 14 days of therapy of 92.8% of hedgehogs compared with 36.6% of hedgehogs treated with itraconazole. Similar rapid mycological cure rates have been reported for treatment regimens using high doses of terbinafine in other species.^{31,42}

The mycological cure rate for the itraconazole-treated group increased to 65.9% after 28 days and 85.4% after 42 days, suggesting that the efficacy of this drug improves with increasing duration of treatment. Comparable results have been reported for cats affected with dermatophytosis with mycological cure rates of >89% reported after 56 days of therapy with itraconazole.^{20,29,43}

Dose-dependent effects could explain the different treatment responses between these two drugs in the

present study. It is likely that itraconazole was fungistatic at the dosage used, with less activity against arthrospores,⁴⁴ compared to the relatively high dose of terbinafine.^{23,33,44,45} Absorption rates and plasma concentrations of itraconazole can be highly variable between individuals and this could have affected the treatment response.⁴⁶ The absorption of azoles is improved when administered with fatty foods, and this requires further investigation in hedgehogs, although the fat content of the food used in the trial was relatively high at approximately 30% dry matter. Further investigations are indicated, potentially using higher dosages of itraconazole and combining systemic therapy with adjunctive topical antifungal treatment to improve the mycological cure.

A licensed veterinary product containing itraconazole is available in many countries as a convenient liquid preparation. However, no equivalent veterinary terbinafine product was available for the trial, which meant that 250 mg tablets intended for human use had to be divided into eighths, making precise dosing for hedgehogs difficult. Reformulating the drug for veterinary use to improve the dosing accuracy was attempted, but this was hampered by its relative poor aqueous solubility. Further investigations into suitable organic solvents or liquid formulations of terbinafine would be useful to aid accurate administration.

Preliminary results indicate that systemic terbinafine is both effective and safe, and therefore useful for the management of dermatophytosis affecting wild hedgehogs in rescue centres because it produces a rapid mycological cure without the requirement for topical treatment. Further studies are required to further investigate the efficacy of systemic antifungal therapy in hedgehogs, particularly using different dosage protocols (including pulse therapy) and treatment duration.

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Résumé

Contexte – La dermatophytose due à *Trichophyton erinacei* est une dermatose squameuse et crouteuse fréquente des hérissons européens (*Erinaceus europaeus*) admis dans les centres de faune sauvage. L'application de traitement topique peut être un défi car les hérissons sauvages sont sujets au stress et s'enroulent en boule pendant qu'ils sont manipulés. Le traitement antifongique systémique est plus efficace mais n'a pas été évalué dans cette espèce.

Hypothèses/Objectifs – Comparer l'efficacité de l'itraconazole oral versus la terbinafine orale pour le traitement de la dermatophytose des hérissons.

Sujets – Un essai thérapeutique a été mené dans un hôpital de faune sauvage sur 165 hérissons atteints de dermatophytose naturelle.

Méthodes – Les animaux ont été répartis au hasard en deux groupes et traités par voie orale soit avec de l'itraconazole soit avec de la terbinafine pendant 28 jours. L'effet thérapeutique a été évalué après 14 et 28 jours par culture fongique et score clinique dermatologique.

Résultats – Les deux traitements ont été bien tolérés et cliniquement efficaces. Après 14 et 28 jours de traitement, les taux de guérison mycologique respectifs étaient de 36.6% et 65.9% pour le groupe traité à l'itraconazole et 92.8% et 98.8% pour le groupe traité à la terbinafine.

Conclusion et importance clinique – L'itraconazole et la terbinafine ont été tous les deux efficaces pour le traitement de la dermatophytose des hérissons; cependant, la terbinafine a été plus efficace.

Resumen

Introducción – La dermatofitosis causada por *Trichophyton erinacei* es una enfermedad común con descamación y costras de la piel que afecta a erizos europeos (*Erinaceus europaeus*) ingresados en centros de rescate de vida silvestre. La aplicación de la terapia tópica puede ser difícil, porque los erizos salvajes sufren estrés y frecuencia forman una bola cuando se les manipula. La terapia antifúngica sistémica es más conveniente, pero no se ha evaluado en esta especie.

Objetivos/Hipótesis – Comparar la eficacia de itraconazol oral versus terbinafina oral utilizadas para el tratamiento de dermatofitosis en erizos.

Animales – una prueba de tratamientos se llevó a cabo en un hospital de fauna silvestre realizado en 165 erizos con dermatofitosis natural.

Métodos – Los animales se dividieron al azar en dos grupos y se trataron con bien con itraconazol o con terbinafina por vía oral durante 28 días. La eficacia terapéutica fue evaluada después de 14 y 28 días mediante cultivo micológico y evaluación de las lesiones dermatológicas clínicas.

Resultados – Ambos fármacos fueron bien tolerados y clínicamente eficaces. Después de 14 y 28 días de tratamiento, el porcentaje de curación micológica fue de 36,6% y 65,9% para el grupo tratado con itraconazol y 92,8% y 98,8% para el grupo tratado con terbinafina.

Conclusión e importancia clínica – El itraconazol y la terbinafina son efectivos para el tratamiento de dermatofitosis en erizos; sin embargo, la terbinafina fue más eficaz.

Zusammenfassung

Hintergrund – Eine Dermatophytose durch *Trichophyton erinacei* ist eine häufige schuppen- und krustenbildende Erkrankung, die die europäischen Igel (*Erinaceus europaeus*) befällt, die in Wildtierauffangstationen gebracht werden. Das Aufbringen einer topischen Behandlung kann eine Herausforderung sein, da wilde Igel stressanfällig sind und sich oft zu einem Ball zusammenrollen, wenn sie manipuliert werden. Eine systemische antimykotische Therapie ist bequemer, wurde allerdings bei dieser Spezies bis jetzt nicht untersucht.

Hypothese/Ziele – Ein Vergleich der Wirksamkeit von Itrakonazol *per os* und Terbinafine *per os* zur Behandlung einer Dermatophytose von betroffenen Igeln.

Tiere – In einer Wildtierstation wurde ein Therapieversuch an 165 Igeln mit natürlich auftretender Dermatophytose unternommen.

Methoden – Die Tiere wurden zufällig in zwei Gruppen eingeteilt und entweder mit Itrakonazol oder mit Terbinafine 28 Tage lang *per os* behandelt. Die therapeutische Wirkung wurde nach 14 und 28 Tagen mittels Pilzkultur und mittels Beurteilung der klinischen dermatologischen Läsionen evaluiert.

Ergebnisse – Beide Medikamente wurden gut vertragen und zeigten eine klinische Wirksamkeit. Nach einer Behandlung von 14 bzw 28 Tagen betrug die mykologische Heilungsrate 36,6% bzw 65,9% für die mit Itrakonazol behandelte Gruppe und 92,8% bzw 98,8% für die mit Terbinafine behandelte Gruppe.

Schlussfolgerung und klinische Bedeutung – Itrakonazol und Terbinafine waren beides wirksame Medikamente für die von einer Dermatophytose betroffenen Igel; Terbinafine war jedoch wirksamer.

要約

背景 – *Trichophyton erinacei*による皮膚糸状菌症は、野生動物保護施設に保護されたヨーロッパハリネズミに鱗屑および痂皮を引き起こす原因として広く知られている。野生のハリネズミは手で触られている間にストレスがかかるとボールの様に丸まってしまうため、局所治療薬の塗布が困難である。抗真菌薬の全身性投与の方が簡便であるが、ハリネズミに対する使用はこれまで評価されていない。

仮説/目的 – 皮膚糸状菌症に罹患したハリネズミにおけるイトラコナゾールとテルビナフィンの経口投与の治療効果を比較検討すること。

供与動物 – 野生動物病院に来院した皮膚糸状菌を自然発症したハリネズミ165頭に対して治験を実施した。

方法 – 患者は無作為に2群に分けられ、イトラコナゾールあるいはテルビナフィンの経口投与を28日間受けた。治療開始14日後および28日後に、真菌培養および皮膚糸状菌病変スコアに基づいて治療効果を評価した。

結果 — 両薬剤とも高い忍容性を示し、臨床的にも効果を示した。治療開始14日後および28日後の真菌培養に基づく完治率はイトラコナゾール治療群でそれぞれ36.6%および65.9%、テルビナフィン治療群でそれぞれ92.6%および98.8%であった。

結論および臨床的な重要性 — イトラコナゾールとテルビナフィンはどちらもハリネズミの皮膚糸状菌症の治療に有効であったが、テルビナフィンの方がより効果的であった。

摘要

背景 — 野生動物救助中心救助のヨーロッパ刺蝟(刺蝟属), 可感染发癣菌, 进而引起癣菌病, 常见皮屑和结痂等皮肤病变。因为刺蝟胆小且常常在人触摸时候蜷缩成球状, 所以对其进行局部治疗比较困难。全身性治疗更方便, 但没有针对该品种的评估分析。

假设/目的 — 比较口服伊曲康唑和特比萘酚治疗刺蝟癣菌病的疗效。

动物 — 野生動物医院接诊并治疗的165只自然感染癣菌病的刺蝟。

方法 — 动物被随机分为两组, 分别口服伊维菌素或特比萘酚28天。治疗第14天和28天时, 通过真菌培养和临床癣菌病变评分评估治疗效果。

结果 — 从药物耐受性和临床效果两方面来看。治疗后的第14天和第28天, 伊曲康唑治疗组癣菌病治愈率分别为36.6% and 65.9%, 特比萘酚组治愈率分别为92.8% and 98.8%。

总结和临床意义 — 刺蝟感染癣菌病, 伊曲康唑和特比萘酚均有效果; 然而, 特比萘酚疗效更好。

Resumo

Contexto — Dermatofitose causada por *Trichophyton erinacei* é uma afecção crostosa e descamativa comum em *hedgehogs* Europeus (*Erinaceus europaeus*) admitidos em centros de resgate de fauna silvestre. A aplicação de terapia tópica pode ser desafiadora porque os *hedgehogs* selvagens são sujeitos ao estresse e frequentemente rolam em forma de bola quando manipulados. Terapia antifúngica sistêmica é mais conveniente, mas não foi ainda avaliada nesta espécie.

Hipótese/Objetivos — Comparar a eficácia de itraconazol oral versus terbinafina oral usada para o tratamento de dermatofitoses em *hedgehogs*.

Animais — Um ensaio clínico de tratamento envolvendo 165 *hedgehogs* com dermatofitose adquirida naturalmente, foi realizado em um hospital de animais silvestres.

Métodos — Os animais foram divididos aleatoriamente em dois grupos e tratados com itraconazol ou terbinafina, por via oral, durante 28 dias. A eficácia terapêutica foi avaliada após 14 e 28 dias por cultura micológica e escores clínicos dermatológicos de lesão.

Resultados — Ambas as drogas foram bem toleradas e eficazes clinicamente. Após 14 e 28 dias de tratamento, a respectiva taxa de cura micológica foi de 36,6% e 65,9% para o grupo tratado com itraconazol e de 92,8% e 98,8% para o grupo tratado com terbinafina.

Conclusões e importância clínica — Itraconazol e terbinafina foram eficientes para o tratamento de dermatofitose em *hedgehogs*, entretanto, terbinafina foi mais eficaz.