Efficacy of topical therapy with newly developed terbinafine and econazole formulations in the treatment of dermatophytosis in cats

M. Ivaskiene¹, A.P. Matusevicius¹, A. Grigonis², G. Zamokas², L. Babickaite²

¹ Laboratory of Experimental and Clinical Pharmacology, Department of Non-Infectious Diseases, Lithuanian University of Health Sciences, Veterinary Academy, Tilzes 18, LT-47181 Kaunas, Lithuania
² Dr. L Kriauceliunas Small Animal Clinics, Lithuanian University of Health Sciences, Veterinary Academy

Abstract

In the field of veterinary dermatology dermatophytosis is one of the most frequently occurring infectious diseases, therefore its treatment should be effective, convenient, safe and inexpensive. The aim of this study was to evaluate the efficacy of newly developed topical formulations in the treatment of cats with dermatophytosis. Evaluation of clinical efficacy and safety of terbinafine and econazole formulations administered topically twice a day was performed in 40 cats. Cats, suffering from the most widely spread Microsporum canis-induced dermatophytosis and treated with terbinafine hydrochloride 1% cream, recovered within 20.3 ± 0.88 days; whereas when treated with econazole nitrate 1% cream, they recovered within 28.4 ± 1.14 days. A positive therapeutic effect was yielded by combined treatment with local application of creams and whole coat spray with enilconazole 0.2% emulsion “Imaverol”. Most cats treated with econazole cream revealed redness and irritation of the skin at the site of application. This study demonstrates that terbinafine tended to have superior clinical efficacy (p < 0.001) in the treatment of dermatophytosis in cats compared to the azole tested.

Key words: cat, terbinafine, econazole, cream, dermatophytosis

Introduction

Dermatophytosis, also known as tinea or ringworm, is a disease caused by superficial fungal infection of the skin with a propensity to attack hair shafts and follicles. It is caused by fungi of the genera Microsporum, Trichophyton and Epidermophyton. Besides humans, it may affect rodents, dogs, cats, horses, cattle and swine. Dermatophytes are classified as zoophilic, mainly found in animals, but can be passed to humans. Anthropophilic dermatophytes are mainly found in humans and are passed to animals rarely. Geophilic dermatophytes are found mainly in soil, where they feed on decomposing hair, feathers, hooves and other sources of keratin. They infect both humans and animals. Dermatophytosis is very contagious and spreads extremely quickly among humans and animals. This disease is the most commonly occurring dermatological zoonosis. Over 90% of feline dermatophytosis cases worldwide are caused by Microsporum canis (Seebacher et al. 2008, Frymus et al. 2013).