

Management of camel dermatophytosis using Captan and Hexaconazole

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Abstract

The present report describes management of dermatophytosis in young camels using a commercial preparation containing captan and hexaconazole. The weekly topical application of the suspension for four consecutive weeks resulted into significant improvement in the condition after two applications and almost complete cure was achieved after a month. The present report appears the first on potential use of captan and hexaconazole combination in camel dermatophytosis.

Key words: Camel, Captan, Dermatophytosis, Dermal, Hexaconazole

Dermatophytosis is a disease caused by invasion of keratinized tissues of the body by a group of fungi called dermatophytes. It is the most frequent mycotic infection in both animals and man (Kane *et al.*, 1997). In Camel, high prevalence of dermatophytosis has been reported worldwide, particularly in young animals (Baghza *et al.*, 2016). Perhaps, long body hairs present in camel offer favorable habitat for the growth of dermatophytes (Agab, 2010). Though, it is a non-fatal disease, growth rate is significantly compromised in the young camels suffering from the generalized form of the disease. Besides, dermatophytes invading camel also poses a public health risk due to zoonotic nature of the disease (Tuteja *et al.*, 2019).

Application of iodine ointment and Vit A administration has been reported to be effective in treatment of camel dermatophytosis (Almuzaini *et al.*, 2016). However, considering high cost of the treatment, it seems to have limited field application particularly in generalized form of the disease in camel. The present study aimed to evaluate the efficacy of an aqueous suspension of a powder containing captan 70% and hexaconazole 5% in management of generalized dermal mycosis in young camels.

Case History and Observations

The study was conducted in four male camel calves less than 2 years of age affected with generalized form of dermatophytosis. The affected animals were apparently free from any other disease and feed and water intake was normal. Sixty grams of a commercial preparation "Captain" (Fineline AgriAids Pvt. Ltd., Ahmadabad) was dissolved in two liter water and the resultant mixture was applied throughout the body after proper restraining of the animal. No other drug or

pharmaceutical agent was applied by either topical or systemic route. The topical application of captan was repeated at weekly interval for four weeks.

The weekly topical application of the suspension for four consecutive weeks resulted into significant improvement in the condition after two applications and almost complete cure was achieved after a month (Fig 1 and 2). Captan (N-(trichlormethylthio)-cyclohex-4-ene-1,2-dicarboximide) is a contact fungicide commercially available for use in fodder crops. It is reported to be effective in case of ringworm infection in cattle calf (Gupta *et al.*, 2009). Captan is a non-systemic fungicide used to control diseases of many fruit, ornamental, and vegetable crops. It has a low acute toxicity but may be toxic particularly in concentrated dust powder form (P.M.E.P. 1993). It causes mild skin irritation in laboratory animals and sheep.

Hexaconazole (2-(2,4-dichlorophenyl)-1-(1H-1,2,4-triazol-1-yl)hexan-2-ol) is a systemic fungicide of the class of triazoles. It is an ergosterol biosynthesis inhibitor used for the control of many fungi particularly Ascomycetes and Basidiomycetes in agriculture. It is considered to be safe with a low order acute toxicity by the oral, dermal and inhalation routes of exposure. It is mild irritating to the eye and non-irritating to the skin. Subchronic and chronic dietary feeding studies in mice, rats and dogs indicate that it has mild hepatotoxic potential (U.S.E.P.A., 1999). Hence hexaconazole can be recommended for topical application in animals without any significant health risk to animals and public.

The present report appears the first on potential use of captan and hexaconazole combination in camel dermatophytosis. This therapeutic regimen appears convenient to follow, low risk of toxicity to animal



Fig. 1 and 2. Response of therapy in dermatophytosis affected camel calf

and public health and low cost in comparison to other options like use of systemic antifungal drugs and topical administration of many other antifungal available in the market. However, while its application; care should be taken to wear protective gloves to protect from the irritating action of captan.

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