

Therapy of Knemidocoptic Mange in Budgerigars with Spot-on Application of Moxidectin

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Abstract: In this study, 30 Budgerigars (*Melopsittacus undulatus*) with *Knemidocoptes pilae* infection were treated with a spot-on application of moxidectin (Cydectin® Injection For Cattle) at a dose of 1 mg (0.1 ml Cydectin) per bird. This application was given once to 10 birds and twice at 10 days intervals to 20 birds. Clinical signs in all birds of both groups disappeared 30-40 days after treatment. No side effects were seen.

Key Words: Mange, *Knemidocoptes pilae*, Budgerigar, Treatment, Moxidectin

Moxidectin'in Spot-on Uygulanmasıyla Muhabbet Kuşlarının *Knemidocoptes Uyuzunun Tedavisi*

Özet: Bu çalışmada *Knemidocoptes pilae* enfeksiyonlu 30 muhabbet kuşu (*Melopsittacus undulatus*) moxidectin'in (Cydectin Injection For Cattle) spot-on uygulanmasıyla tedavi edildi. Her kuşa 1 mg moxidectin (0.1 ml Cydectin) uygulandı. İlaç yukarıdaki dozda 10 kuşa bir kez, 20 kuşa ise 10 gün ara ile iki kez verildi. Her iki gruptaki kuşlarda klinik belirtiler tedaviden 30-40 gün sonra kayboldu. İlacın yan etkisi görülmedi.

Anahtar Sözcükler: Uyuz, *Knemidocoptes pilae*, Muhabbet kuşu, Tedavi, Moxidectin

Introduction

Knemidocoptes pilae is responsible for scaly face mange in budgerigars and causes proliferative, spongy-like typical lesions on the feet, cere, beak and around the eye (1, 2, 3). It is recorded that *K. pilae* infection may remain latent for considerable time until stress occurs, such as chill or movement to a strange cage (3). This parasite has been reported from various countries (4-6) including Turkey (7-8).

For the treatment of this infection, mineral oil, rotenone, orthophenyl phenol, crotomiton, ivermectin mixed with a few drops of DMSO (1, 5) and 2% aqueous solution of Neguvon (8) is topically applied with a cotton swab to lesions. Alternatively, applications of ivermectin as spot-on (4), oral (1), intramuscular (1, 7) or subcutaneous injection (8) were recommended. Georgi (1) also recorded that in particularly serious cases two applications of ivermectin administered orally or intramuscularly at 0.2 mg/kg were necessary to treatment the disease.

In this study, the efficacy of spot-on application of moxidectin on knemidocoptic mange of budgerigars was tested with one or two applications of this drug.

Materials and Methods

Birds: Thirty budgerigars (*Melopsittacus undulatus*) weighing 35-40 g and having lesions of various severity and evidence of itching were brought to the Department of Parasitology between May 1994 and January 1996. Skin scrapings were taken from the lesions and macerated in 10% KOH. The identification of the parasite seen in the scrapings was based on its morphological peculiarities (10). According to the information gained from the owners, the infections had appeared in some cases in conjunction with stress such as movement of birds to another place or a new cage.

Drug treatment: Cydectin Injection For Cattle, Cyanamid (Active constituent: 10 mg/ml moxidectin) was used. Cydectin was dropped on the skin through the feathers behind the neck at a dose rate of 0.1 ml (1 mg moxidectin) per bird. This dose is equal to 25-29 mg/kg according to the body weight. Drug was given once to 10 birds and twice at 10 days intervals to 20 birds.

The evaluation of drug efficacy was based on clinical improvement. Spectacly, the birds were examined after treatment with 10 days intervals until the lesions disappeared.

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Results

Before treatment, the microscopic examination of skin scrapings confirmed the presence of *Knemidocoptes pilae*. Clinical inspection showed that all the birds had itching and proliferative, spongy-like lesions of various severity. The lesions were localized on cere and beak in 29 out of birds, on feet in 17 and around eyes in 10.

After treatment, it was observed that there was no difference between one and two applications of moxidectin for treatment of this mange. The itching disappeared within 10 days after the first treatment while completely recovery of lesions took a period of 30-40 days depending on the severity of lesions. No untoward effects of moxidectin at 25-29 mg/kg (0.1 ml Cydectin per bird) were evident.

Discussion

As yet no study was encountered about the therapy of knemidocoptic mange in budgerigars with moxidectin. The applications of ivermectin, which is in the same chemical class of moxidectin, as intramuscular injection

(1, 8), oral (1), topical (3) and spot-on (4) have been reported to be effective against this mange. In serious cases two applications of Ivermectin have been suggested to be necessary (1). It is doubtless that intramuscular, oral and topical applications of drugs are more time consuming and troublesome than spot-on application.

In this study, one and two spot-on applications of moxidectin were found to be similarly effective against this mange regardless the severity of lesions.

The dosage of 0.1 ml Cydectin per bird (25-29 mg moxidectin/kgbw) and its use mentioned in Materials and Methods is very easy for pet animal practice. Although this dose seems to be too high in comparison with the recommended dose of 0.2 mg/kgbw for cattle, it never caused any side effect in birds. No information was encountered about the margin of safety and minimum effective dose of moxidectin for the treatment of knemidocoptic mange of budgerigars.

Our observations about occurrence of knemidocoptic mange in some birds, which are under stress, are in line Urquhart et al (3).

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