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Short Communication / *Kısa Bilimsel Çalışma*

Demodicosis in a Golden (Syrian) hamster (*Mesocricetus auratus*)

Zafer KARAER[1], Arif KURTDEDE[2], Kerem URAL[3], Barış SARI[4], C.Çağrı CINGI[5], M.Çağrı KARAKURUM[6], A.Evren HAYDARDEDEOĞLU[2]

[1] Ankara Üniversitesi, Veteriner Fakültesi, Protozooloji Bilim Dalı; [2]İç Hastalıklar Anabilim Dalı, Ankara; [3]Adnan Menderes Üniversitesi Veteriner Fakültesi İç Hastalıkları Anabilim Dalı, Aydın; [4]Kafkas Üniversitesi, Veteriner Fakültesi, Parazitoloji Anabilim Dalı, Kars; [5]Afyon Kocatepe Üniversitesi, Veteriner Fakültesi, İç Hastalıklar Anabilim Dalı, Afyon; [6]M. Akif Ersoy Üniversitesi, Veteriner Fakültesi, İç Hastalıklar Anabilim Dalı, Burdur-Türkiye.

Summary: A two year old male Golden (Syrian) hamster (*Mesocricetus auratus*) was presented with a history of alopecia on the dorso-lumbosacral area and on the back, lethargy, anorexia and severe pruritus. Microscopic examination of skin scraping revealed mites identified as *Demodex criceti* and *Demodex aurati*. Initial therapy included ivermectin and H-vitamin, neverthless the present case was dead four days after admission. To the present authors' knowledge this is the first reported case describing the mix demodectic infestation by *Demodex criceti* and *Demodex aurati*, in Syrian hamster in Turkey.

Key words: *Demodex criceti*, *Demodex aurati,* Syrian hamster

Bir Golden (Suriye) hamsterinde (*Mesocricetus auratus*) demodikozis

Özet: Bu olgunun materyalini, dorso-lumbosakral bölge ve sırtta alopesi, letarji, anoreksi ve aşırı kaşıntı öyküsü olan 2 yaşlı erkek bir Golden (Syrian) hamster (*Mesocricetus auratus*) oluşturdu. Deri kazıntısının mikroskobik muayenesinde *Demodex criceti* ve *Demodex aurati* görüldü. İvermektin ve H-vitamini ile yapılan sağaltıma karşın hasta dört gün sonra öldü. Bu olgu sunumunda Türkiye'de ilk defa bir Suriye hamsterinde *Demodex criceti* ve *Demodex aurati'nin* oluşturduğu miks demodikozis tanımlanmıştır.

Anahtar sözcükler: *Demodex criceti*, *Demodex aurati,* Suriye hamsteri.

Demodectic mites are normal residents of the fauna of many mammalian species including the human skin. It is a very host-specific ectoparasite.

Demodicosis is the most common ectoparasite recognized in hamsters (1, 3, 4, 6, 7, 9) *Demodex criceti* and *Demodex aurati,* very common mange mites of hamsters, have high infestation incidence even without clinical sings. (5). They are generally normal residents found on the hamster (5, 7). *Demodex criceti*, a non-pathogenic mite that is a resident of the epidermis, has a shorter length in contrast to *Demodex aurati*, whereas the pathogenic mite *Demodex aurati* is more pathogenic and found in the pilosebaceous skin components. *Demodex criceti* in 80–100µm long, has a short blunt abdomen that inhabits the keratin and the pits of the epidermal surface. *Demodex aurati* in 150–200µm long, has a cigar-shape which is a hair follicule inhabitant (2, 7, 9, 10).

In this presentation, the aim was emphasized to describe the first reported case of mix demodectic infestation by *D. criceti* and *D. aurati*, in Syrian hamster in Turkey.

Figure 1: Golden hamster with demodicosis
Şekil 1: Demodikozisli Golden hamster

A two year old male Golden (Syrian) hamster (*Mesocricetus auratus*) was presented to the Ankara University, Faculty of Veterinary, Department of Internal Medicine with a one month history of alopecia on the dorso-lumbosacral area and on the back, lethargy of two weeks, anorexia and severe pruritus (Figure 1). As being

Figure 2A: *Demodex aurati*
Şekil 2A: *Demodex aurati*

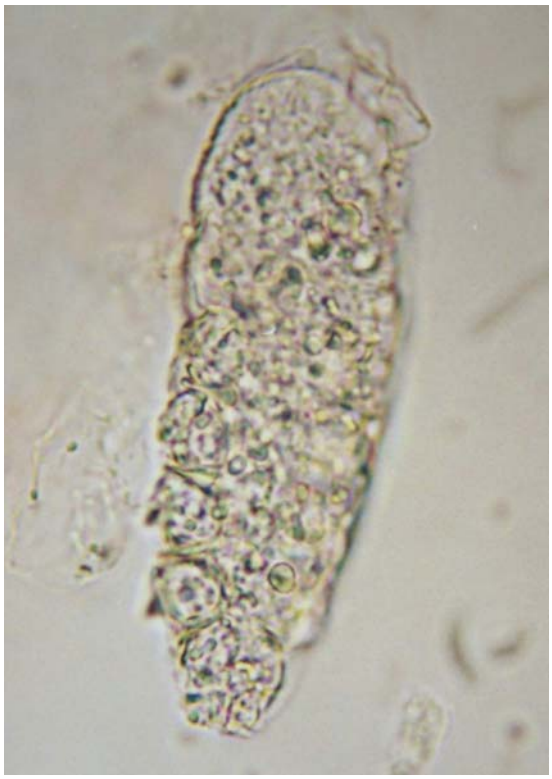

Figure 2B: *Demodex criceti*
Şekil 2B: *Demodex criceti*

informed by the owner the onset of the disease coincided with the husbandry condition changes (diet, bedding and the place of the cage of the hamster) made by him one month previously. At physical examination alopecia and scaling on the dorsal aspect of the back and dorsal lumbosacral area were noticed. On direct KOH preparation from the skin scrapings of the alopecic areas (larvae, nymph and adult forms of) *D. aurati* (Figure 2A) and (only one adult form of) *D. criceti* (Figure 2B) were revealed. The hamster otherwise was healthy. Infestation with *D. aurati* and *D. criceti* was diagnosed. The present case was treated with ivermectin (200 µg/kg) and H-vitamin subcutaneously, however due to detoriating conditions on general status, was dead four days after admission. In order to attempt to identify the underlying cause for the death, necropsy was performed. Neverthless no significant histopathological change was detected. Besides microbiological and fungal culture from the visceral tissues were unremarkable.

The Syrian hamster is one of the most popular exotic companion animal in Ankara, Turkey. To the present authors knowledge as the numbers of householding hamsters are increased for the past few years, the ilnesses dealing with the hamsters are seen frequently. Skin diseases are rarely recognized to those of diseases. In the authors experience skin diseases of hamsters, especially demodicosis, can be viewed in order to highlight the way for small and exotic animal practioners.

Clinical signs in demodicosis may include dry-scabby, scaly dermatitis, rough hair coat (5, 9), moderate to severe alopecia accompanied by scaling and erythema (3). Alopecia generally exits over the back and rump (3, 5) and on the dorsal lumbosacral area (8). As in the present case, on admission to the present authors clinic there was severe-generalized alopecia on whole part of the dorsal lumbosacral area as reported previously (3, 5).

Immunosuppression, concurrent systemic diseases, malnutrition and age have been reported as the underlying causes that are neccessary for the occurence of demodicosis (5). Any concurrent disease or chronic illness symptoms were ruled out in the present case as there were no history of any disease condition and at physical examination the hamster was otherwise healthy. Malnutrition was also unlikely to have been involved in the present hamster as it was fed by commercially available nutrients for these species. The average life expectancy reported in hamsters is one to three years (7). Demodicosis in young animals is usually associated with rapid growth, malnutrition, breed predilection and an immune supressive condition. In aged hamsters internal diseases or tumors, and immunologic abnormalities (i.e. malnutrition, concurrent diseases, cancer, and exposure to carcinogens) have been reported as the underlying

conditions (3, 5, 8). In the authors experience an immune supressive condition (8) might play a role in the onset of the disease in the present case as there was a history of changes in the husbandry conditions one month prior to the clinical signs. However any internal disease or tumor did not play a role in the onset of the disease in the present case as histopothological and microbiological examination was unremarkable.

Diagnosis of demodicosis is usually based on skin scrapings and in addition, histopathology (10). In the present case as reported previously by the latter authors (8, 10), diagnosis was based on the microscopic examination of the skin scrapings, which revealed mix demodectic infestation by *D. aurati* and *D. criceti.* However histopathologic examination was unremarkable.

Finally as a practical note veterinary surgeons should bear in mind that, demodicosis caused by *D. aurati* and *D. criceti* should be on the list of differential diagnosis for ectoparasites. To the present authors' knowledge mix demodectic infestation including *D. aurati* and *D. criceti* has not been previously reported in hamsters in Turkey.

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Address for correspondence:
Ali Evren Haydardedeoğlu, DVM
Ankara Üniversitesi, Veteriner Fakültesi,
İç Hastalıklar Anabilim Dalı,
Ankara-Türkiye
e-mail: aehaydardedeoglu@gmail.com