

# Furuncular Cutaneous Myiasis Caused by the Larva of *Cordylobia Anthropophaga*: Case Report

## Larva *Cordylobia Anthropophaga* Tarafından Oluşturulan Fronküler Kuteno Miyaz Vakası

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**ABSTRACT** Cutaneous myiasis in humans can be identified as the parasitic infestation on the skin formed temporarily by the larvae (maggots) of Diptera order. Myiasis cases, which are more common in warm and humid regions, are rarely encountered in our country. With increased travels to tropical regions, the incidence of cutaneous myiasis cases is also increased. In this report, we featured a myiasis case in a 52-year old female patient, who applied to with an itching, rash and pain on her leg after returning from Cameroon and was diagnosed with cutaneous myiasis in furuncles on her legs. This case-report of furuncular myiasis, due to *Cordylobia anthropophaga*, is the first one identified in Turkey.

**Keywords:** Larva migrans; furunculosis myiasis

**ÖZET** İnsanlarda kuteno miyaz, Diptera larvalarının deride geçici yerleşmesiyle olan parazitik enfestasyon olarak tanımlanır. Nemli ve ılıman bölgelerde daha yaygın olan miyaz vakaları ile nadiren ülkemizde de karşılaşılmaktadır. Tropikal bölgelere gezilerin artmasıyla birlikte kuteno miyaz vakaları insidensi de keza artmıştır. Bu olguda Kamerun'dan döndükten sonra bacaklarında kaşınma, kızarıklık, ağrı şikayetiyle hastaneye başvuran ve fronküler kuteno miyaz tanısı konulan 52 yaşında kadın hastadaki miyaz vakasını yayınladık. *Cordylobia anthropophaga* tarafından oluşturulan fronküler miyaz vakası Türkiye'de saptanan ilk vakadır.

**Anahtar Kelimeler:** Larva migrans; furonküloz miyazis

**M**iyasis is defined as the infestation of human and animal tissues or organs by larvae of the order Diptera in order to feed or complete their life cycle.<sup>1</sup> Larvae that form myiasis in humans are classified into various groups depending on the involved part of the body. Some of them are named as cutaneous, ophthalmic, nasopharyngeal, auricular, oral, enteric and urogenital. The most common type, cutaneous myiasis, is further divided into three sub-groups: furuncular, migratory and wound myiasis.<sup>2,3</sup>

Two of the most common furuncular myiasis, *Dermatobia hominis* and *Cordylobia anthropophaga*, are not endemic in Turkey, and are usually seen in tropical regions. Hence, no furuncular myiasis due to *C. anthropophaga* has been reported in Turkey yet. With this case-report, we present a furuncular myiasis case due to the *C. anthropophaga* in a Turkish traveler who returned from a tropical region.

## CASE REPORT

A 52-year-old otherwise healthy female patient presented to a hospital in Cameroon with complaints of itching in her legs, and treatment of anti-allergic ointment was initiated. Upon her return to Turkey two days later, she showed up in a dermatology clinic, where she was put on per oral treatment of amoxicillin/clavulanic acid 1000 mg tablet bid with the diagnosis of furuncles. She presented to our infectious diseases clinic due to the increase in her complaints despite the treatment. Her physical examination was normal except induration, hyperemia and painful furuncles in her right hip and thigh. In blood tests, white blood cells (WBC) were  $13.6 \times 10^3/\text{mm}^3$  and C-reactive protein (CRP) 16.3 mg/dl. Intravenous (IV) sulbactam/ampicillin 1000 mg qid was started to the patient. The next day, the wound had reduced erythema and induration and was white in color on top of furuncles. The material was found to be larvae when the white parts were scratched. The live and dead larvae were removed by forceps from the patient's other furuncles. With the removal of the larvae, the patient got better. No other treatment was applied to the patient. Extracted larvae were sent in saline solution to the Department of Medical Microbiology at the Cerrahpasa Faculty of Medicine.

The live and dead larvae were first examined macroscopically. A number of live larvae were removed into chicken liver so that they could complete the larval stage and become adult flies. The larvae, which completed their development, were taken into wood shavings to form pupae, thereby producing adult flies. (Figure 1) Then stages of larvae and species of flies were identified according to the types of scleritis at anterior ends and structures and numbers of stigmata on both fore- and back-ends (Figures 2, 3, 4). Adult flies that derived from live larvae were examined, and their properties were compared with those in the larval stage. Thus, dead and live larvae as well as the adult flies from the larvae were identified to be *C. anthropophaga*.

The patient's pain was relieved after all larvae were removed and she was discharged.



FIGURE 1: Larvae.



FIGURE 2: Adult.



FIGURE 3: Posterior spiracle.

## DISCUSSION

Parasitism that occurs with Diptera larvae on human and animal tissues or organs is called myiasis. All the larvae present in the order of Diptera



FIGURE 4: Anterior spiracles and head skeleton.

will not be the cause of myiasis.<sup>4</sup> In humans, larvae of the families of Calliphoridae, Sarcophagidae, Oestroide and Muscoide, can usually cause myiasis. Majority of the larvae to form myiasis tend to infest open wounds, eyes, nose, ears, urinary tract, bowel, anus and vagina and also sometimes can settle on intact skin.<sup>2,4</sup> The most common clinical forms of cutaneous myiasis are classified as furuncular, migratory and wound myiasis.<sup>1</sup>

Human myiasis is a rare infestation, which can be seen anywhere in the world, but is more common in warm and moist areas.<sup>5</sup> *C. anthropophaga* larvae, one of the most important causes of cutaneous furuncular myiasis, are commonly found in tropical regions of Africa.<sup>6,7</sup> Although endemic to Africa, these types of myiasis cases were reported in countries

such as Italy, China, France, Spain, Portugal and Saudi Arabia.<sup>7-12</sup> The increase in these incidences can be justified by increased international travels.

In our country, myiasis cases which resulted from larvae of *C. anthropophagi* have not been reported yet. The furuncular myiasis, related to *C. anthropophaga* larvae, from our case-report is first of its kind in our country. The myiasis cases in Turkey, created in different parts of the body by Sarcophagidae, have been reported.<sup>13,14</sup> It is recommended in furuncular myiasis treatment to remove the larvae mechanically, to clean the necrotic tissues, and to clean the skin with antiseptic solution. Antibiotics are used when complications develop.<sup>14</sup>

As a result, furuncular myiasis cases are rare in Turkey, and this usually leads to delayed diagnosis times. If diagnosed bacterial furuncles are not healing with the treatment, furuncular myiasis should also be considered especially in patients with recent travel history to tropical regions.

#### Conflict of Interest

Authors declared no conflict of interest or financial support.

#### Authorship Contributions

**Concept;** Hülya Çaşkurlu, Erdal Polat, **Design;** Hülya Çaşkurlu, Erdal Polat, Serhat Sirekbasan; **Materials;** Hülya Çaşkurlu, Erdal Polat, **Writing;** Hülya Çaşkurlu, Erdal Polat, Serhat Sirekbasan.

#### Informed Consent

Informed consent was obtained from the patient participating in this study.

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