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**Letter**

**Cutaneous myiasis of scalp in a young girl related to *Musca domestica***

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**Introduction**

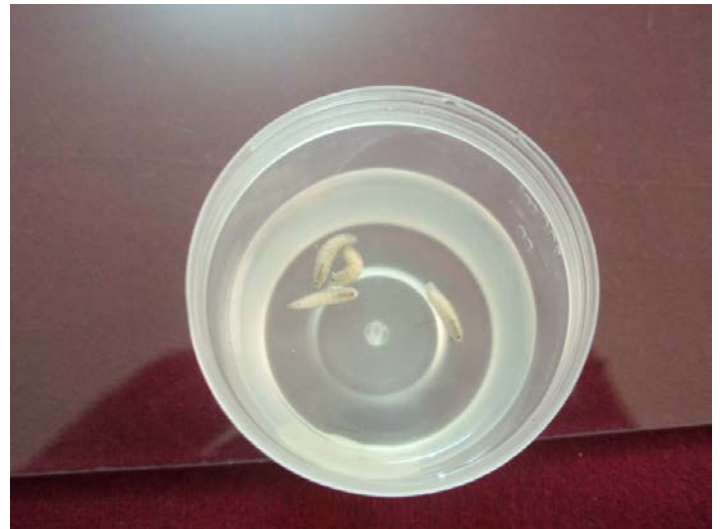
Cutaneous myiasis is a parasitic disease secondary to the presence of the larvae of certain insects, particularly diptera, in the skin of man or vertebrates [1]. Human myiasis is a rare clinical condition, but more frequently seen in tropical and subtropical areas. Hot humid climate with inadequate sanitary conditions favor the development of this condition. Dermatitis, psychiatric illnesses, leprosy, and diabetes are some contributory factors [2]. Treatment of myiasis, once diagnosed, is simple and rapid recovery is anticipated.

**Case synopsis**

A 12-year-old, emaciated girl was referred to the dermatology outpatient department of a tertiary care hospital of Karachi, Pakistan with the complaints of multiple pus filled lesions on the scalp for the last two months. She also gave history of fever, lethargy and headache. She lived, along with her four siblings and an ailing mother in a small house with poor sanitary conditions.

On examination, she had multiple heavily crusted, purulent lesions all over the scalp, more so on the vertex and occipital region. The rest of the dermatological examination did not reveal any other abnormality. The crusts were removed gently by liquid paraffin soaked gauze revealing multiple circular foul smelling ulcers in which maggots could be seen squirming, as shown in Figure 1. The child weighed only 26 kg, was pale, and exhibited bilateral, mildly tender cervical lymphadenopathy. The rest of the systemic examination was unremarkable. The patient was admitted to the hospital and the ulcers were filled with liquid paraffin to agitate the maggots, which were then removed with the help of forceps; a few were collected in a plastic container for photography and identification, shown in Figure 2. When no further movement was perceptible, the ulcers were filled with liquid paraffin and a bandage applied over the scalp and changed every 4 hours. During the initial 30 hours maggots kept creeping out from the ulcer crater filled with liquid paraffin and adhering to the bandage. The boggy fragile skin adjacent to the ulcers broke down to form a single large ulcer. The child was also treated with amoxicillin and clavulenic acid after procuring a pus swab for culture and sensitivity. She was also started on nutritional supplements. Her laboratory work up revealed a hypochromic, microcytic anemia with a hemoglobin of 10.0 gm/dl and TLC  $27.3 \times 10^9 / L$  with 80% neutrophils and 6% eosinophils. X ray of the skull did not detect any abnormality. CT Scan of the head was normal. Culture revealed growth of *Staphylococcus aureus* sensitive to the prescribed antibiotics. Wound debridement was done under general anesthesia to ensure complete removal of larvae. The purulent lesions on the scalp and cervical lymphadenopathy resolved gradually with antibiotic therapy. The scalp

lesion was allowed to heal by primary intention (Figure 3). A consultation with the parasitology section, department of Zoology, University of Karachi for identification of these larvae and they were identified as 4<sup>th</sup> Instar larvae of *Musca domestica* commonly called the house fly (Fig 4).



**Figure 1.** Ulcers on the scalp with larvae squirming in the base. **Figure 2.** Maggots collected in a container



**Figure 3.** Allowing the skin to heal by primary intention; 2 weeks after debridement of wound. **Figure 4.** Larvae identification as 4<sup>th</sup> Instar larvae of *Musca domestica*

## Discussion

Myiasis is an infestation of body tissues, of humans and animals, by the larvae (maggots) of *Diptera*. *Diptera*, one of the largest of the insect orders, includes flies, gnats, midges, and mosquitoes. Clinically, myiasis can be classified according to the part of the body affected. Cutaneous myiasis includes wound myiasis, and furuncular myiasis, in which larvae penetrate and develop within the skin. Apart from skin, there is nasopharyngeal, ophthalmic, intestinal, and urogenital myiasis [3,4].

The larvae of the house fly, *Musca domestica* are saprophagous, being found in dung and decaying refuse. The infestation has previously been reported in cases of long standing necrotic cutaneous lesion with some element of neglect [5]. Infestation is believed to be self-promoting; egg-laying female flies are particularly attracted to the odor of an existing myiasis, resulting in expansion of the lesion. *Chrysomya bezziana*, or Old World screw-worm fly is endemic throughout tropical and subtropical regions of Asia and Africa. In an 18-month study from Sri Lanka, all 16 cases of cutaneous myiasis were related to larvae of *Chrysomya* species. The commonest was *C. bezziana* afflicting 87.5% of patients. Just 2 had *C. megacephala* larvae infestation. The foot was the site of predilection [6]. Similarly, previous reports from Pakistan, of ophthalmic myiasis, have identified *C. megacephala* and members of the *Oestridae* family [7] as the causative agents of myiasis. Our case report emphasizes its existence in lesions of shorter duration on the scalp in a child. The condition is uncommon and needs to be kept in mind when dealing with heavily impetiginized lesions. Treatment of cutaneous myiasis is often simple and successful. Topically instilled

mineral oil, like liquid paraffin, followed by manual removal of maggots is effective in most cases. Oral ivermectin has been used in cases in which it was difficult to extract the maggots physically [8].

## Conclusion

Myiasis is considered to be more common in long standing chronic non-healing skin lesions in debilitated, neglected elderly patients. However, in developing countries, where people live in over-crowded conditions with poor sanitation and inadequate personal hygiene, it can afflict all age groups.

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