

# Periungual myiasis caused by *wohlfahrtia magnifica* mimicking an ingrown toenail

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**Abstract:** Myiasis is the infestation of organs and tissues of human being or other vertebrate animals with dipterous larvae. Myiasis is generally rare in humans, especially in children. We present the first case of periungual myiasis by *Wohlfahrtia magnifica* in a 5-year-old female. *Wohlfahrtia magnifica* is an obligatory parasite, which has been described as cause of ophthalmomyiasis, otomyiasis, oral myiasis, vulvar myiasis and wound myiasis. Treatment of myiasis and ingrown toenail is generally non-operative although both entities can be serious and/or non-responsive to conservative therapy.

**Keywords:** Children; ingrown toenail; myiasis; *wohlfahrtia magnifica*

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## Introduction

Myiasis is the infestation of organs and tissues of human being or other vertebrate animals with dipterous larvae. Myiasis usually occurs in the tropics and subtropics regions of Africa and the Americas (1) and it is seldom reported in humans. *Wohlfahrtia magnifica* is an obligatory parasite that usually causes myiasis in humans (2) and it has been reported as the cause of ophthalmomyiasis, otomyiasis, oral myiasis, vulvar myiasis and wound myiasis (3,4). We present the first case in literature of periungual myiasis in a child caused by *Wohlfahrtia magnifica*.

## Case presentation

A 5-year-old female visited us with signs of inflammation at the medial side of the right big toe as for an ingrown toenail. The past medical history of the child was negative and the status of personal care and hygiene was good, but she had recently been to Kenya for holidays. We decided to treat the ingrown toenail, as usual in our pediatric surgery unit, with topical applications of antibiotic ointment (Gentamicin Cream 2-3 applications daily). After 7 days of therapy, the child returned and a larva had emerged and fallen to the ground (*Figure 1*). The larva was sent for

examination and identified as larva of *Wohlfahrtia magnifica* (Diptera, Sarcophagidae) (*Figure 2*). Local applications of Gentamicin and a systemic antibiotic therapy (Amoxicillin + Clavulanic Acid) were administered for 7 days more. The toenail healed within two weeks (*Figure 3*).

## Discussion

Myiasis refers to the infestation of live human and vertebrate animals with dipterous (two-winged) larvae (maggots). Etiologically, it can be classified into 3 groups, which are obligatory agents, facultative agents and accidental agents (1,4). *Wohlfahrtia magnifica* is an obligatory parasite that usually causes myiasis in humans (2) and it has been reported as the cause of ophthalmomyiasis, otomyiasis, oral myiasis, vulvar myiasis and wound myiasis (3,4). The female fly of *Wohlfahrtia magnifica* usually deposits living larvae in skin lesions as well as mucosal cavities. The larvae grow rapidly and can cause significant tissue destruction. After one week, the larvae emerge, fall to the ground and pupate (5). In our case, we found the larva emerging from a tunnel created unexpectedly under the nail. Treatment of myiasis and ingrown toenail is generally non-operative although both entities can be serious and/or non-responsive



**Figure 1** The right big toe immediately after the larva had emerged and fallen to the ground.



**Figure 2** The larva of flesh fly, *Wohlfahrtia magnifica* (Diptera, Sarcophagidae).



**Figure 3** The right big toe after two weeks of treatment.

to conservative therapy, so that a surgical approach may be required (5,6,7). According to literature, we successfully treated both periungual myiasis and ingrown toenail with a conservative approach.

In conclusion, myiasis is generally rare in humans and, once diagnosed, the removal of the larvae is curative. Our case is the first in literature of periungual myiasis, in a

pediatric patient, mimicking an ingrown toenail.

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### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Informed Consent:* Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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