

What's Eating You? Cutaneous Myiasis (*Wohlfahrtia magnifica*)

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Myiiasis (*myia* meaning fly in Greek), first named by Hope¹ in 1840, is the infestation by the larvae of 2-winged insects (dipteran flies) in living tissues of humans and other mammals.² Clinically, myiasis can be classified according to the part of the body affected. Cutaneous myiasis, which is common in developing countries in tropical and subtropical zones of Africa and South America, includes furuncular myiasis (primary) and wound myiasis (secondary).³ Cutaneous myiasis is easy to diagnose and treat if clinicians are aware of the condition. Although a limited number of cases have been reported in developed countries, because of widespread travel, physicians may encounter this infestation in patients living in geographic regions where the condition is rare.

We present a 5-year-old girl with furuncular myiasis of the scalp. The causative parasites, removed from the mor-like swelling, were identified as larvae of the fly *Wohlfahrtia magnifica* after entomological study.

Case Report

A 5-year-old girl was admitted to the emergency department at Hacettepe University, Ihsan Dogramaci Children's Hospital, Ankara, Turkey, because of furunculous lesions on the scalp that began as nodules 2 weeks prior. The patient was living on a

farm in a rural area and had direct contact with livestock. Upon admission, she reported itching and pain on the vertex of the scalp. Physical examination revealed a large, inflammatory, nodular plaque located on the vertex of the scalp. Serosanguineous discharge from the pores located on the nodules, each approximately 1 cm in diameter, was evident. Live larvae also were noted (Figure 1). The patient was febrile (axillary temperature, 38.3°C) with palpable cervical adenopathy. A complete blood cell count revealed marked eosinophilia (24% eosinophils in granulocyte formula [reference range, 0%–6%]).

The diagnosis was based on characteristic clinical features and the visual presence of wriggling larvae approximately 1 cm in diameter. Microbiologic analysis confirmed the diagnosis of myiasis and identified the maggots as third-instar *W magnifica* larvae (Figure 2).

Treatment consisted of removal of the maggots from the nodule using forceps after an occlusive



Figure 1. A large, inflammatory, nodular plaque located on the vertex of the scalp with pores from which serosanguineous discharge was expressed and *Wohlfahrtia magnifica* larvae were carefully extracted.

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Figure 2. The adult stage of *Wohlfahrtia magnifica* (A). The spiracles from the most posterior segment of one of the larvae removed from the patient's scalp (B).

dressing with paraffin oil was applied for 24 hours. A total of 35 larvae were removed and the wound was dressed locally with povidone-iodine. The cavity was irrigated daily with an antiseptic solution. During her hospitalization, an oral antibiotic (amoxicillin/clavulanate 80/20 mg/kg daily), analgesic, and antihistamine were ordered. Two weeks after the larvae were extracted, the patient was reexamined and healing was uneventful (Figure 3).

Comment

Although it is not uncommon in developing countries, few cases of myiasis have been reported in developed countries. The disease typically involves skin and soft tissues either primarily or as a complication of wounded skin. Primary infestation is seen mainly in patients who have predisposing factors such as travel to endemic areas, contact with livestock,



Figure 3. Appearance of the scalp 2 weeks after removal of the larvae and treatment of the lesion.

old age, mental retardation, alcoholism, diabetes mellitus, basal cell carcinoma, and vascular occlusive disease.^{2,4-8} There was no underlying disease or pre-existing wound in our patient.

Entomological examination revealed the characteristic posterior spiracles of *W magnifica* larvae in our patient (Figure 2). Infestation by *W magnifica* of the scalp, skin, eyes, nose, ears, and vulva has been reported in the Mediterranean Basin, southern Russia, the Middle East, and North Africa.⁹⁻¹⁵

A great number of mammals (ie, cows, horses, goats, sheep, pigs, dogs) and birds are infested with *W magnifica*, while humans are considered to be occasional hosts. In their life cycle, adult female *W magnifica* flies deposit 10 to 50 ova on viable or necrotic tissue.² A purulent or bloody discharge attracts the flies to leave their ova. The larvae immediately detach, invade subcutaneous tissues, grow, and pupate into adult flies.²

Our patient exhibited a typical clinical appearance for furuncular myiasis with a subcutaneous mass related to larvae growth and pores used for ventilation and excretion of waste. Serosanguineous discharge can be expressed and sudden paroxysmal episodes of severe itching and sharp pain are common, as seen in our patient.¹⁶

The diagnosis is mainly clinical and confirmed by the extraction of the larvae.² Myiasis can be misdiagnosed as cellulitis, subcutaneous abscess, or leishmaniasis. Predisposing factors—being in an area endemic for myiasis or having contact with livestock—and symptoms—pruritus, a sensation of movement under the skin, or intermittent pain—can help to confirm the diagnosis.

Curative treatment may be achieved by removal of the larvae in their entirety and any remnant may provoke an inflammatory response. An occlusive dressing after manual extraction has been reported as a successful treatment. Our patient responded well to this treatment.

Conclusion

Because of increasing travel to areas where myiasis is relatively common, this condition must be considered in the differential diagnosis of scalp and skin nodular lesions with serosanguineous discharge. In patients who have resided in or traveled to areas where infestation by *W magnifica* is common, myiasis can be easily diagnosed based on the presence of larvae in wounds and treatment is possible.

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