

What lies beneath a maggot infestation of an ulcerated foot wound?

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We present here the case of a 55-year-old male patient with a past medical history of HIV infection on appropriate antiretroviral therapy (Bictegravir/Emtricitabine/Tenofovir Alafenamide), previously treated for hepatitis C with sustained viral response, who was diagnosed with squamous cell cancer of his right hand 2 years before, and treated with carboplatin and taxol, and surgery (partial amputation) for cancer progression and recurrent infections. He presented to our emergency department for worsening pain (NRS 10/10) of a suppurative and foul-smelling interdigital ulcerated lesion of his left foot, that had been present for 3 months. He reported 100% adherence to his HIV therapy and denied fever or chills. Initial work-up showed $10,690/\text{mm}^3$ leukocytes ($8,240/\text{mm}^3$ neutrophils, $1,560/\text{mm}^3$ lymphocytes), and a C-reactive protein of 2.89 mg/dL (normal value 0-0.5). CD4 count on presentation was 225 cells/ μL . The patient was immediately treated with morphine (10 mg iv) and piperacillin/tazobactam (4.5 gr iv). The lesion presented erythematous ulcerated bleeding surface with serous and fetid secretion on which mobile larvae were found inside (as showed in the video). We removed about 20 maggots with blunt pliers, identified as larvae of *Musca domestica* (housefly).

Question

Given the patient's history, what is the most likely diagnosis?

1. Marjolin's ulcer
2. Diabetic foot ulcer
3. Infected neoplastic ulcer
4. Kaposi sarcoma

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Informed consent: The patient provided consent for the access to medical records at the time of admission.

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Answer

The patient was admitted to the Infectious Disease Unit and was treated with ivermectin 12 mg was given orally in a single dose with complete cure of the myiasis. A broad-spectrum intravenous antibiotics, which included Linezolid, ciprofloxacin and metronidazole, were infused for a total of 3 weeks, without improvement. A skin biopsy was done, and it revealed well-differentiated squamous cell carcinoma (SCC). After a combined oncological and orthopaedic consultation, he underwent surgical amputation of the foot. The final diagnosis was skin myiasis in ulcerated SCC of the left foot.

Myiasis is an ectoparasitic infestation by *Diptera larvae* of higher flies of the genus *Dermatobia*. It can be a complication of malignant lesions, particularly those affecting the head and neck;^{1,2} of these, epidermoid carcinoma is one of the most frequently associated with this complication, particularly in patients with large, ulcerated, and necrotic SCC.^{3,5} Female flies have a strong visual and olfactory attraction to blood and decaying tissue, particularly tumour cell metabolites, which may explain the propensity of ulcerated malignant tumours to be parasitized. The goal of treatment is to mechanically remove with forceps all larvae to avoid deep invasion and bleeding. To date, no treatment guidelines for wound myiasis exist. Patel *et al.* recommend using ivermectin, albendazole, and clindamycin to eradicate the infestation.⁶ Large, ulcerated, necrotic, myiasis-burdened SCC lesions in the head and neck area still remain a challenge for treatment, particularly in patients with aggressive malignancies in the hospice and palliative medicine settings.⁷ Grinblat *et al.* proposed a four-pillar protocol to rapidly improve wound condition through disinfection, pain relief, and malodour and discharge eradication as a bridge to surgery.⁸

Online supplementary material:
Video. Mobile larvae in the wound.

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