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## A rare case of vulvar myiasis

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### Abstract

**Background:** Myiasis is the infestation by dipterous larvae or eggs, laid on either living or necrotic tissues. It is the most important insect disease. It can affect various sites such as skin, nasal cavities, ears, gastrointestinal or genitourinary tract. Vulva accounts for only 0.7 % of all human infestations. Here we report a case of vulvar myiasis.

**Case Presentation:** A 40 years old female was admitted to our hospital in a semi-conscious state. Due to her neurological state, history could not be elicited. Her vitals were unremarkable. During her general medical examination, she was found to have poor hygiene and a few larvae were seen creeping out of the vagina. Further local examination revealed swollen and erythematous labia majora and minora. She was further evaluated and a provisional diagnosis of altered sensorium with Uraemic/septic encephalopathy with Vulvar myiasis was made. The patient's management was antiseptics, larval removal and general care.

**Conclusion:** Myiasis is a disease of poor hygiene. This case report demonstrates that poor hygiene, ignorance of sexual health and the social stigma makes women prone to these rare infestations. Hence, it is our duty to educate patients about the same.

**Keywords:** myiasis, vulvar myiasis, maggots

### Introduction

Myiasis is derived from the Greek word – “myia”, means fly. It is the infestation by dipterous larvae or eggs, laid on either living or necrotic tissues [1]. The term was first introduced by Hope, in 1840. In earlier times, myiasis was called by names such as ‘Scolechiasis’ and ‘Peenash’. The Diptera also goes by the name of two winged true fly. It is usually seen in the tropics, like India and Africa. It can affect various sites such as skin, nasal cavities, eyes, ears or genitourinary and gastrointestinal tracts [2]. Genitourinary myiasis is a rare form of the disease. Usual predisposing factors being poor hygiene [3], urinary obstruction or ulcerating lesions. Vulvar myiasis, or the infestation of vulva, accounts for approximately 0.7 % of human infestation. Here we present one case of Vulvar myiasis.

### Case Presentation

A 40 years old female was brought to the emergency department of our hospital in a semi-conscious state. On admission, the patient was semi conscious, febrile and dehydrated. Due to her altered sensorium, she was not able to give any history, and neither could the history be elicited by the onlookers who found her in that state. During her general medical examination, she appeared undernourished, had poor hygiene, but her vitals were stable. On removing her clothes from the lower extremities, a few larvae were seen creeping out. Further local examination revealed swollen and erythematous labia majora, with an ulcerated and necrotic patch on the left labia majora and minora that was infested with maggots [Figure 1, 2, 3]. The maggots were seen creeping out and into the labia and vagina. No significant lymphadenopathy was found. On entomological examination, the maggots were found to be of species *Chrysomya bezziana*. Her investigations revealed Hemoglobin of 9.3 g/dl, Total Leukocyte Count of 3500 cells/mm<sup>3</sup> with normal platelet count. Her Blood Urea Nitrogen and Serum Creatinine were 370 mg/dl and 4.9 mg/dl respectively. Her SGOT, SGPT and LDH were 317, 336 and 3270 IU respectively. Her Total and Direct Bilirubin were 1.3 and 0.8 mg/dl. Her blood sugar was 78 g/dl. HIV and VDRL reports were negative. Urine examination and sonography further ruled out a pregnancy. A provisional diagnosis

of altered sensorium with Uraemic/septic encephalopathy with Vulvar myiasis was made. Complete removal of the maggots by application of turpentine oil and use of a non-toothed forceps was done. Further cleansing of the wound was done with Betadine. Daily local asepsis of the wound was achieved and patient was given broad spectrum antibiotics cover to prevent secondary infection, anti-inflammatory drugs with IV fluids. Lesions healed well within a week.

Figure 1, 2, 3



Fig 1



Fig 2



Fig 3

## Conclusion

Myiasis is an infestation that usually occurs in the tropics. Usual implicated organism is the larvae of *Chrysomya bezziana* (the Old world Screwworm Fly). It is usually predisposed by various conditions like poor hygiene, low socioeconomic status, immunocompromised or debilitated state. Our patient in this case was both debilitated and had poor hygiene. Myiasis can be classified in various ways, two of them being, either by location or the relationship between host and parasite. According to the relationship, it can either be Obligatory, Facultative or Accidental. On the basis of location, its usually either Cutaneous or Cavitary (genitourinary, gastrointestinal) myiasis. In myiasis, the female flies usually lay their eggs or larvae on the skin or wound or the other portals of entry. To finally transform into the 2<sup>nd</sup> and 3<sup>rd</sup> stage larva, the hatching larva undergoes moulting in two stages. The 3<sup>rd</sup> stage larva finally leaves the host to develop into a pupa and further transform into an adult fly, that continues the same pattern. The larval growth on the body, however, produces further destruction and eventually cavitation. Due to the ongoing inflammation, there is formation of a fibrous capsule around the larva which further makes its removal difficult. The toxins released by the larva prevent healing, and the infected area gives a characteristic pungent odour. During the tissue being fed by the larva, the caudal ends of these project outwards at the surface of the lesion, which gives the typical appearance of myiasis—a pulsating end of larva with its respiratory spiracles. On examination of the lesion, the larvae should always be collected and saved in 10% formalin to be sent for entomological analysis. For the management of such a case, cleansing of the wound should be done and the patient be given tetanus cover. Blood cultures are recommended to be sent to rule out an active bacterial infection and secondary sepsis. Turpentine oil or white petroleum jelly can be used for eradication of the larvae. Both of them aim to deprive the larvae of its oxygen supply by blocking the respiratory spiracles, thereby killing them. However, in case of immature larvae, they should be best left to develop for a while as their removal is quite difficult and it can incite a severe inflammatory reaction. Use of turpentine oil has been widely documented for cutaneous myiasis, but not much literature is there for its use in vulvar myiasis. In our patient though, it produced excellent results.

As previously mentioned that poor hygiene constitutes one of the key factors in the causation of vulvar myiasis, one of the practices of Indian women needs to be brought into the light. It is common for rural Indian women to practice the use of the sanitary cloth that is used again after re-washing it. During the time when it is left out in the open to dry, it attracts flies. This can be one of the ways of exposure of the larvae to the genitourinary tract.

Myiasis is a disease of poor hygiene. Hence, it is our duty to educate patients regarding the maintenance of good hygiene and also, the practice of safe and clean sanitary napkins. It is also our duty to consider and not overlook myiasis as a differential diagnosis when any patient with such predisposing factors presents to us with itching or other complaints in the genitourinary area.

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