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Case Report

Uncommon complication: maggot infestation around tracheostomy tube wound

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ABSTRACT

"GOD'S punishment for sinners" this is the name given to Myiasis (Maggots) in Hindu mythology, symbolizing divine retribution. Myiasis is caused by the larvae of dipterous flies, which feed on living or necrotic tissue of both humans and animals. It can affect various body sites, including the skin, eyes, ears, stomach, intestinal tract, and genitourinary areas. The condition primarily involves body cavities such as the nasal cavity, ears, non-healing ulcers, exophytic malignant growths, and cutaneous tissue. While myiasis around a tracheostomy tube is rare, it presents significant challenges in diagnosis and treatment. Here, we present the case of a 62-year-old male who developed myiasis around his tracheostomy tube. Physical examination revealed severe necrosis around the tracheostomy site, with multiple live maggots present in the affected tissue. After the removal of the tracheostomy tube, the patient was able to breathe without difficulty in a room air environment. A total of 30–40 live maggots were carefully extracted using tooth forceps and curved artery forceps. Surgical debridement and removal of necrotic tissue were performed to prevent further spread of infection and promote healing. This case underscores the importance of considering myiasis as a rare but potentially serious complication in patients with tracheostomies, highlighting the need for prompt intervention to prevent systemic infection.

Keywords: Tracheotomy tube, Chest injury, seizures, Maggots, Parasites

INTRODUCTION

Myiasis, a parasitic infestation caused by fly larvae (maggots), was first reported in 1587 by Soares "d" Souza as cutaneous myiasis.[1] In 1840, Rev. F. W. Hope coined the term "myiasis" (formerly scholechiasis), and in 1919, Castellani and Chalmer described nasal myiasis caused by Chrysomya, known as Peenash in India.1 Our case is significant as only a few cases of myiasis in this context have been reported.[2]

True myiasis occurs when flies deliberately lay their eggs in or on a host's tissues. It has two primary forms: obligate and facultative. Obligate myiasis involves maggots that must feed on living tissue to complete their life cycle. These parasites are restricted to specific fly species that require living hosts.[3] Facultative myiasis occurs when flies exploit wounds or decaying flesh to incubate their larvae. Unlike obligate myiasis, facultative myiasis can affect both living and dead tissues. The majority of human myiasis cases are facultative, often occurring in areas with poor hygiene or in individuals with compromised immune systems.[4]

The main fly families that cause myiasis are Calliphoridae (blowflies) and Muscidae (houseflies). Blowflies contribute significantly to both obligate and facultative myiasis as their larvae can develop in both living tissue and decaying matter. Houseflies, primarily

associated with decaying organic matter, can also cause facultative myiasis in certain conditions.[5]

While many species of flies causing facultative myiasis are relatively benign and not inherently pathogenic, some, such as *Lucilia sericata* (green bottle fly), are used in larval therapy. This therapy utilizes maggots to clean wounds by digesting necrotic tissue without harming healthy tissue, aiding in the healing of chronic wounds and ulcers.[6]

In contrast, obligate parasites like *Cochliomyia hominivorax* (New World screw-worm) can cause severe, often fatal infections if untreated, as the larvae invade healthy tissue, causing extensive damage.[7]

Epidemiologically, myiasis is more common in tropical and subtropical regions, where flies are more active and conditions like poor sanitation, open wounds, and inadequate medical care are prevalent. It poses a particular threat to vulnerable populations, such as the elderly, immunocompromised individuals, and those with chronic conditions like diabetes or cancer.[8]

CASE REPORT

Herein we represent to you a case of 62 years old man with Myiasis around tracheostomy tube. Patient came to us with complaint of discharge, and feeling of something moving around the tube since, 2 weeks. He gave history of trauma 1 year back with chest injury for which he had gone through tracheostomy. He had history of seizure also. He was under medication from government hospital.

The dressing of tracheostomy tube was usually done by his relatives who was a nurse. Since, two weeks he was in discomfort from the wound around tube so he came to us. Physical examination shown, there were severely necrosed with multiple live maggots around the tracheostomy tube.

Initial management

Maggots were removed with the help of toothed forceps and curved artery, removal of unhealthy tissue was done. Thorough NS wash given and dressing was done

Wound care

Daily dressing for few days were done as there was reoccurrence. After few days of dressing maggots were completely gone.

Then after patient was asked to after 5 days. The wound completely healed after 3 weeks.

Additional treatments

Antibiotics and pain killer were also prescribed for few days.

Figure 1 (A & B): Pre op clinic.

Figure 2: During procedure.

Figure 3: Removed maggots.

Figure 4: After the removal of maggots.

Figure 5: Post op photo after 3 weeks.

DISCUSSION

Maggot infestation around tracheostomy tubes is uncommon, but can arise due to several contributing factors: the smaller size of percutaneous tracheostomies compared to surgical tracheostomies, the patient's vegetative state, inadequate cleanliness of the inner and outer tubes, the smell of decaying tissue that draws flies, and living in rural areas.[9] Other common risk factors for myiasis are advanced age, poor hygiene, malnourishment, social isolation, diabetes, cancer, and peripheral artery disease.[10]

Most reported cases of myiasis involve obligatory parasites at various wound sites, with only a few instances around tracheostomy tubes. In our case, the contributing factors were poor socio-economic conditions, lack of proper hygiene, the foul odour of decomposition, and delayed cleaning of the tube. The tracheostomy tube had not been replaced for a prolonged period, and dressing changes were done at home without antiseptic precautions.[11]

Treatment included the periodic removal of larvae and consistent dressing changes, which significantly reduced the risk of recurrence. Possible complications during larval removal included the danger of aspiration and the presence of live foreign bodies in the airway.[11]

CONCLUSION

Myiasis is a rare but serious condition that requires early detection and intervention, particularly in immunocompromised patients or those with chronic illnesses. Prompt removal of maggots, debridement of necrotic tissue, and, if necessary, antibiotics to prevent secondary infections are crucial for managing the condition. In severe cases, surgery may be needed to remove deeply embedded larvae and repair tissue damage.

Treatment involves the careful mechanical removal of larvae, with local anesthesia if necessary. In cutaneous myiasis, organic phosphorus insecticides can effectively destroy the insects on the skin.

Myiasis is largely preventable with good hygiene, proper wound care, and timely medical attention. Understanding the differences between obligate and facultative myiasis, along with the role of different fly species, is essential for prevention and effective treatment. Patient education on tracheostomy care, regular cleaning, and maintaining cleanliness in the area is vital to avoid this issue, with prompt, knowledgeable intervention being key to successful treatment.

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