

## CASE REPORT

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# Myiasis in a the Tracheotomy Wound: A Case Report

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### Abstract

*“Myiasis” is a parasitic infestation of live human or vertebrate animal tissues or cavities caused by dipterous larvae (maggots) which feed on the host’s dead or living tissue, liquid body substances or ingested food. The case is reported, probably the first in Bangladesh, tracheostomy myiasis. It was caused by infestation with larvae.*

*The patient had undergone tracheostomy 3 years earlier and was a case of ca-larynx. The condition was treated by applying halothane to the tracheostomy wound, which caused spontaneous exit of approximately 30 larvae, easily removed with forceps.*

*Predisposing factors could be: 1. Immuno-compromization due to post-irradiation state of patient; 2. Poor hygiene of tracheostomy tube; 3. Bad smell of wound, which attracts flies; 4. Living in a rural area deprived from necessary health care. Although this is not a lethal disorder, knowledge of the disease is necessary from the preventive, diagnostic and curative standpoint. It is important to proceed with identification of the larvae, distinguishing them from other types of myiasis involving different therapeutic implications.*

**Keywords:** Tracheostomy, Myiasis

### Introduction

Myiasis is derived from the Greek word, *myia*, meaning fly. The term was first introduced by Hope in 1840 and refers to the infestation of live human and vertebrate animals with dipterous (two-winged) larvae (maggots) which, at least for a certain period, feed on the host’s dead or living tissue, liquid body-

substance, or ingested food. Myiasis has been described as “God’s punishment for sinners” in Hindu mythology

Besides open wound, predisposing factors for wound myiasis in human include poor social condition, poor overall hygiene, advanced age, very young age, illness, mental retardation, diabetes and physical in-ability to prevent flies from depositing their ova. Human myiasis is not an uncommon parasitic infestation in the tropics and subtropics, and the increase in international travels has led this disease to become of greater importance. Myiasis is a well-known condition among veterinarians, because cases of animal myiasis are frequent, especially in underdeveloped regions. Flies causing myiasis can be classified into two Groups, based on the relationship with their hosts: *Obligate parasites*, specifically producers of

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myiasis, Can develop only on live hosts; *Facultative parasites*, Can develop on live hosts or carrion, their larvae feed primarily on cadavers or vegetables, but can sporadically infest human or animal tissues. According to the tropism of the tissue, dipterous larvae are divided into:

- a) Cutaneous and subcutaneous myiasis: these invading dermo-epidermal layers of the host, sometimes the deeper tissues up to the natural Cavities. They are caused by larvae which infest wounds, preferably draining, or sores;
- b) Myiasis of natural cavities: rhinomyiasis, otomyiasis, Oral, pharyngeal and laryngeal myiasis;
- c) Myiasis with inner migration: larvae migrate inside the body before emerging at skin level. Treatment of myiasis consists of scrupulous mechanical removal of the larvae, when possible with the help of local anesthesia of the mucosa and larvae themselves.

We report an unusual case of late tracheostomy bleed caused due to infestation of maggots around the tracheostoma with a review of relevant literature.

### Case report

In July 2013, an overweight 57-year-old male, a known case of ca-larynx (supra-glottic growth) attended our emergency department, with complaints of painless bleeding from the tracheostomal site. He had undergone tracheostomy 3 years ago for stridor . The patient was in a post-radiotherapy state for ca-larynx. His family referred that they had noticed small quantity of blood leaking from the tracheostomy tube, with many whitish larvae on the Skin around it. They tried unsuccessfully to remove the insects cleaning the skin. During examination of the patient, with a lateral motion of the flange of the

tracheostomy tube, we observed many larvae between the tube and the tracheal Wall. Portex non-cuffed tracheostomy tube (size 7.0) was almost fully blocked with secretions, crusts, and maggots



**Fig.-1: Maggots in Tracheostome**

Several photographs were taken and a moderate quantity of halothane was applied around the tracheostomy, obtaining the exit of approximately 30 larvae which were removed. Adequate precautions were taken, and tracheostomy tube was changed .The tracheal mucosa was completely damaged and leaking. At this point, the skin

around the tracheostomy was washed with an antiseptic solution. Special care was taken to avoid removal of the tube with possible risk of larvae falling in the bronchial tree. The patient was stabilised and admitted in Otolaryngology ward. After 72 hours, there were no more maggots, and the tracheostomal wound started healing well. By day six of admission, the wound healed well. Patient was discharged in a stable condition with non-cuffed tracheostomy tube (size 6).

### Discussion

Reports have appeared in the literature regarding nasal, auricular or oral myiasis but

myiasis related to tracheostomy is a very rare event with only two publications Having appeared in the English literature<sup>1,2</sup>. Myiasis was considered, by Hindu mythology, as "God's punishment of sinners". This case offers the opportunity for some considerations. Tracheostomy should be considered a predisposing factor or a fortuitous finding and myiasis is not a complication. Predisposing factors could be:

1. Immuno-compromization due to post-irradiation state of patient;
2. Poor hygiene of outer and inner cannula;
3. Odors of decomposition, which attract flies;
4. Living in a rural area.

Chigusa ET al. (1996) indicated that patients with psychiatric disorders, as well as elderly and debilitated persons, should be protected from flies, on account of their autism and/or decreased sensitivity, Which may make it easy for flies to deposit eggs or Larvae on the patient's body surface or orifices. Myiasis of tracheostomy could be considered a particular variety of cutaneous or a cavity myiasis because the stoma is a transition area between the skins and the tracheal cavity. The adult fly can be found feeding on flowers, cadavers, excrements and waste, for this it is vector of different pathogens. The adult females lay the eggs on the cadavers, wounds or sores and are attracted by the foul smell emanating from infected wounds; these eggs hatch giving rise to *primary larvae* which can progress by burrowing through necrotic or healthy tissue aided by proteolytic enzymes. If left untreated or undetected, the maggots can be dislodged and aspirated into the lower airway or it may breach the vessel causing embolization of the parasite increasing the morbidity.

Treatment of the present case consisted of mechanical elimination of the larvae, application of halothane around the tracheostomy and subsequent washing and disinfection of the surrounding skin. Hospital admission may be useful to avoid spreading of the tissue lesions or bronco-pulmonary complications since larvae, in the bronchial tree, can behave as a live foreign body. Prognosis, when there are no complications, is good.

### Conclusion

Knowledge of this disease is necessary from a preventive, diagnostic and curative standpoint. Tracheostomal myiasis, although rare, emphasizes the importance of health education with regards to hygiene, sanitation and home tracheostomy tube care especially in immunocompromised individuals. Moreover, it is important to proceed with identification of the larvae, distinguishing them from other types of myiasis involving different therapeutic implications.

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