



## SURGICAL WOUND MYIASIS IN THE MAXILLOFACIAL REGION

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**Abstract:** Myiasis of oral and maxillofacial region is a rare condition caused by the invasion of tissues by larvae of flies. A case of 62-year-old male operated for squamous cell carcinoma of floor of the mouth of myiasis is presented with breakdown of the wound a week after the surgery. The patient was unaware of the lesion, although it produced a swelling and complete breakdown of the wound. The lesion was treated with flushing the ulcer with turpentine oil. These create an anaerobic atmosphere inside the ulcer, which forces the larvae to come to the surface, facilitating debridement. Followed by topical application of local anaesthesia, the mechanical removal of maggots was done. Follow-up examination revealed complete subsidence and healing of the lesion.

**Keywords:** Myiasis, Surgical Wound, Maxillofacial Region.

### INTRODUCTION

Myiasis, from the Greek *myia* for “fly,” has been defined as the infestation of live human or vertebrate animals with larvae of the insect order Diptera (flies), which feed on living or necrotic tissue<sup>1-3</sup>. Myiasis can also be classified according to the site of infestation. Cutaneous myiasis involves the invasion of the skin, with the most common target being a wound, near which an obligatory or facultative parasitic fly will lay eggs.<sup>1,2,4</sup> In “wound myiasis,” both healthy and necrotic tissues can be fed on by the larvae, depending on the conditions and species of fly involved. Apart from the skin, the eyes, ears, nose, and sinuses represent relatively common sites of attack whereas less common sites are the mouth, throat, urogenital, and gastrointestinal tracts.<sup>1-7</sup> We present a case of surgical wound myiasis in the maxillofacial region.

### Report of a case:

A 62-year-old man was operated on for squamous cell carcinoma of the left side of the floor of the mouth by an access gained through lip splitting and mandibular swing, on request from the family members he was discharged from the hospital after 7 days of surgery to attend his son’s wedding at his village. 2 weeks later when he visited our hospital he had presented with complete breakdown of the lip split incision. The margins of the lesion were undermined by numerous interlinking passages containing numerous maggots. The treatment began with flushing the ulcer with turpentine oil. These create an anaerobic atmosphere inside the ulcer, which forces the larvae to come to the surface, facilitating debridement. Followed by topical application of local anesthesia, the mechanical removal of maggots was done with the help of clinical forceps. On the first day

more than 50 maggots were removed. The larvae were grayish with transverse rows. They were short, stout and light brown, with spikes tipping posteriorly along its tapering body. The wound was washed with saline, followed by placement of betadine dressing. The patient was administered Ampicillin, Gentamycin and Metronidazole. The following day, the ulcer was irrigated with hydrogen peroxide and then with turpentine oil. Around 20-30 maggots were removed, after which the wound was irrigated with saline followed by placement of betadine dressing.



**Pic.1:** Initial clinical presentation with undermined wound site



**Pic.2:** Surgical wound containing numerous maggots

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**Pic.3:** Manual removal of maggots using clinical forceps



**Pic.4:** Maggots in lower labial mucosal wound site

### DISCUSSION

People living in underdeveloped countries where malnutrition and unsanitary condition are more prone, are vulnerable to disease such as myiasis.<sup>8</sup>

Myiasis is the disease caused by invasion of organs and tissue by dipterous larvae, which last for a period of time and feed on the living or dead tissues. The larvae become mature and invasive and leave the necrotic tissue for viable tissue, causing extension of the lesion by local tissue destruction. One of the risk factor for the development of oral myiasis is poor oral hygiene. Suppurative lesions and facial trauma are other risk factors<sup>9</sup>. Myiasis is also found among elderly and abandoned individuals, as well as in interns of geriatric hospitals and mental institutions presenting poor hygiene habits.<sup>10</sup>

The eggs are deposited by the female flies over the unbroken suppurating lesions or open wounds. Upon hatching, the maggots penetrate deep into tissue aided by their sharp mouth hooks and anchoring inter-segmental spines and cause necrosis of the tissue. Progressive necrosis of the tissue continues, along with the deep invasion of the larvae until a cavernous lesion is formed, while the larvae aggregate and remain active. The lesion is characterized by tense and oedematous surrounding tissue with pungent odour. Extension of the lesion into body cavity would be seen in some of the cases.

In the present case, because of the surgery involving the masticatory segment, patient oral

hygiene was fair in the post-operative period. Since the patient been discharge within few days before the surgical wound been completely healed, the surgical wound site became of place for infestation of the maggots. Under hospital care, the patient would have had complete healing of the wound by daily intra oral care and extra oral dressing. Since these are not possible outside hospital care, the chance of wound getting infected is high.

Also the patient would have hardly opened his mouth, which could be a predisposing factor for the development of the disease.

The larvae can damage the vital tissues which sometime be fatal if they cause life threatening hemorrhage.<sup>11</sup> The severity of the lesion depends on the time interval from the onset of infection and the diagnosis of the lesion. If the lesion is diagnosed early, less number of larvae will be present with minimal tissue damage. But if the lesion is presented at later stage or delayed, it will result in greater number of larvae with extensive tissue necrosis. Therefore early diagnosis is crucial to limit tissue damage. Depending on the number of viable eggs that are actually deposited by the female fly, the same number of larvae hatches and grow in any lesion.

Mechanical removal of the larvae is the traditional treatment of myiasis<sup>12</sup>. Anti-larval measures includes use of turpentine oil or mixture of turpentine oil and chloroform followed by removal of the larvae<sup>13</sup>. But also use of topical and systemic antibiotic as co-adjuvants in the treatment improves the favorability of prognosis in severe cases.

Use of Vaseline or turpentine oil will cause anaerobic environment for the larvae and will help in bring the larvae to the surface which help in manually removing the larvae using clinical forceps.

Human myiasis can be prevented by controlling the fly populations and by general cleanliness. In case of post-surgical care, it can be prevented by keeping the wound site clean and covering with a dressing.

Esthetic surgery sometimes may be considered when the tissue destruction is such that it needs reconstruction of that particular region of the body.

### CONCLUSION

Myiasis can be prevented by practicing good personal hygiene, primary care of wound, controlling fly population and maintenance of sanitation of the surroundings. Apart from these, Patient's bystanders should be educated about the post-operative care, by teaching them the dressing and wound care and the importance of it, so that such manifestation of larvae

could be prevented. Any symptoms relating to infestation should be reported to the hospital as the earliest, so that the lesion can be treated with minimal tissue damage rather than extensive necrosis when presenting at later stage. Myiasis can be prevented, so "prevention is better than cure".

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