

Treatment of Myiasis in Post-Traumatic Wounds by Open Super Oxidised Solution Dressing: A Case Report

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Abstract: Myiasis is a condition characterised by infestation of housefly larvae in human tissues. Although it is a rare occurrence in oral and maxillofacial region, it has been well reported in existing literature. In our case report, we describe a case of myiasis in post traumatic wounds reported in trauma center of King George Medical University Lucknow. It was treated by open superoxidised solutions dressing and showed good results.

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I. Introduction

Myiasis a.k.a maggot infestation is a problem commonly encountered in extremely poor hygienic and filthy conditions where patient with open wounds remains bereft of first aid for a long period of time. It is caused by flies using exposed wounds or degenerative necrotic conditions as a site to incubate their larvae and the maggots feed on living tissues. It can be classified as primary (living tissues) and secondary (dead tissues)¹. Most commonly affected sites include nose, eye, lung, ear, vagina, ear, anus, vagina and rarely mouth. Treatment includes manual removal of maggots along with application of chemical agents². Hereby we present a case myiasis in facial wounds in an inpatient undergoing treatment for pan-facial fractures (complicated by Cerebrospinal fluid leak). Case was treated by removal of maggots, debridement of necrotic tissue, systemic antibiotic administration and open dressing of the wounds with superoxide solution dressing.

II. Case report

A 25 year old male patient reported to King George Medical University trauma centre with history of road traffic accident. Patient reported three days after trauma. Clinical and radiographic examination revealed multiple abrasions, fracture of nasoethmoidal complex, bilateral zygoma and mandible. Cerebrospinal fluid was also detected in the patient owing to which patient was admitted in Neurosurgery ward after primary stabilization and cleaning and closure of wounds. As per priority, treatment for CSF leak was initiated by lumbar drainage and strictly advised bed rest. Two days post hospitalization patient reported painful swelling at chin region which gradually increased to involve entire facial region. It was also accompanied by two pus draining sinuses and open wounds (figure 1). The patient was shifted to oral and maxillofacial department where surgical exploration of the chin wound was undertaken and persistence of live maggots was noticed. Immediately turpentine oil was applied on the exposed wound and manual retrieval of maggots from deeper tissue spaces was done. Necrosis and degeneration of skin and underlying tissues was noticed and thorough debridement along with irrigation with metronidazole, povidone iodine and superoxide solution was done. Dressing coated with superoxide solution was placed on open wound was placed and patient was advised Intravenous antibiotics. This was followed by serial debridement with turpentine oil application for next few days to prevent any occult focus of maggot infestation. Needful debridement was done as and when needed and sufficient quantities of antiseptic solutions were applied to rinse the wound bed free of debris. The dressing was held in place with bandages wherever needed. Decrease in wound size, peri-wound oedema/erythema, pus discharge and increase in granulation, fibrin and epithelisation was noted (figure 2 and 3).

III. Discussion

The term myiasis is applied to the injurious action that larvae of certain diptera cause to the organism of vertebrate animals in the living or dead tissue in which they grow. Because of its great destructive potential, appropriate and preventative treatment are necessary³.

Myiasis is classified as either primary or secondary. Primary myiasis is caused by larvae that feed on living tissue (biophagous). This form of myiasis is common in cattle and rare in humans. It is produced by *Cochliomyia hominivorax* ("varejeira" fly), which lays 20-400 eggs on exposed wounds, with larvae hatching within 24 hours. Secondary myiasis is caused by flies that feed on dead tissue (necrobiophagous).^{4,5} This is the more common type and attacks patients with lesions that have necrotic cavities. The larvae obtain their nutrition

from the surrounding tissue and burrow deep tunnels into soft tissue, separating the gums and mucoperiosteum from the bone.

Oral myiasis is a rare entity with higher incidence in developing countries which occurs more in hot and humid conditions. Various predisposing factors leading to occurrence are poor oral hygiene, suppurative lesions, senility, alcoholism and debilitating conditions.

Although it can be a self-limiting condition, Surgical debridement of wound and manual removal of larvae is mostcommonly used procedure for treatment. Care istaken to prevent laceration of larvae which can lead to foreign body reactions.Systemic antibiotics should be given to prevent any secondary infection⁶.

In our case, occurrence of myiasis was noted in a patient of maxillofacial trauma, undergoing treatment in neurosurgery ward for CSF leak. We used the suffocation approach where cotton pellets impregnated with turpentine oil were placed into the infected wounds causing the maggots to wriggle out of tissue spaces and hence can be manually removed. After thorough cleaning and debridement of wound an open superoxide dressing was placed which was changed daily.

Such condition can be prevented by creating adequate awareness about wound hygiene and maintenance of proper sanitataion and clean environment around patient. Any patients with such open wounds should be immediately kept in sanitised hospital conditions.

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Figure 1 : infected wound – immediate picture



Figure2 – infected wound- 4 weeks with regular debridement and dressing



Figure 3 – infected wound- 12 weeks with regular debridement and dressing- complete healing noted

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