Oral Myiasis

Kar-Hing Yeung,* BDS, FRACDS, MSc (Lond), FFDRCSI
Albert Chun-Fung Leung,† BDS, FRACDS, MDS (HK), MOSRCs (Edin)
Alfred Chee-Ching Tsang,‡ DDS, MSc (Lond), FFDRCSI

ABSTRACT Myiasis is a rare condition caused by fly larvae infestation of body tissues. A case report is presented of a patient who had developed myiasis in the palate. He had suffered from cerebro-vascular accident resulting in right hemiplegia. Moreover, he had incompetent lips and very poor oral hygiene. Maggots were found in the palatal ulcerations. The clinical features, management and treatment outcome are discussed and the relevant literature is reviewed.

Introduction

Myiasis is the infestation of tissues by the larvae (maggots) of diptera (two-winged) flies. Zumpt (1965) descriptively defined myiasis as “the infestation of live human and vertebrate animals with dipterous larvae, which, at least for a certain period, feed on the host’s dead or living tissue, liquid body substances, or ingested food” 1. Myiasis is well recognized in the animals but rare in humans in whom it occurs mainly in the tropics and subtropics 2. Oral myiasis in human is usually reported among the poor in the developing world, and is rare in Hong Kong 3. Mouth-breathing during sleep, alcoholism, mental handicap, cerebral palsy and hemiplegia may facilitate the development of myiasis. Other contributing factors include poor public and personal hygiene 2. A rare case of oral myiasis in a patient who had suffered from cerebro-vascular accident is reported. This is the second case recently presented to our unit in a 6-month period. The clinical features and management are discussed.

Case report

A 50-year-old Chinese man was referred from the Accident and Emergency Department of Tuen Mun Hospital for management of a suspected dental infection. He had persistent low-grade fever of 38°C in the week before presentation. Augmentin one gram twice daily had been prescribed by his general medical practitioner but without any improvement in his condition. He had a past medical history of cerebro-vascular accident and was right hemiplegic. Clinically he was wheel-chair bound and had difficulties in controlling his oro-facial and masticatory muscles. Intraorally, multiple ulcerations were present at the anterior part of hard palate and were infested by live maggots. Seventeen maggots were retrieved with tweezers and the palatal wound was irrigated with 2% hydrogen peroxide. (Figure 1) Five more maggots were removed from his palate by the nurse at his old-aged home in the following two days. The maggots were submitted to the Microbiology Department and were later identified as larvae of Chrysomya bezziana fly. He regularly attended our unit for review together with wound debridement. The palatal ulceration healed progressively without much scarring in three weeks. (Figure 2)

Discussion

Many different species of fly larvae have been implicated as causative agents in human myiasis. They all belong to the order Diptera, which literally means two-winged 5, 4. These flies laid over 500 eggs at a time onto foodstuffs causing chance infection following ingestion (accidental myiasis), laid directly onto necrotic tissue in wounds (semispecific myiasis) or with some species that require living tissue, laid directly onto undamaged skin (obligatory myiasis) 5. The maggots were submitted to the Microbiology Department and were later identified as larvae of Chrysomya bezziana fly. He regularly attended our unit for review together with wound debridement. The palatal ulceration healed progressively without much scarring in three weeks. (Figure 2)
most common fly larvae in human myiasis belongs to
the family Sarcophagidae or Calliphoridae, whereas
their genera are many and varied and include Calliphora,
Lucilia, Musca, Phormia, Sarcophaga, Wohlfahrtia,
Hypoderma, Gasterophilus, Dermatobia, Callitroga,
Cochliomyia, Cordylobia and Chrysomyia. Chrysomya bezziana,
which infested our patient, was
one of the common causative agents for obligatory
myiasis. Myiasis can affect different parts of the human
body such as skin, gut, bladder, nasal cavities, aural
cavities, eyes and occasionally the oral cavity. However,
oral involvement is extremely rare even in
developing countries. Oral myiasis may present as
an oral mucosal swelling, gum swelling, periodontal
disease, palatal ulcers, secondary infestation of
cancrum oris, in oral wounds such as extraction wound,
jaw bone fractures, oral leprosy lesion. Human myiasis is rare in Hong Kong. A recent
outbreak of domestic and farm animals Chrysomya
bezziana infestation in Hong Kong was reported in July
2000. The first reported human case of Chrysomya
bezziana infestation in Hong Kong was encountered at
Tuen Mun Hospital in October 2002. The patient was
an 89-year-old lady who had suffered from intra-cerebral
haemorrhage and was paraplegic. She was also suffering
from herpes simplex stomatitis with secondary infestation
of the maxillary gingivae and palate by maggots. The
maggots were removed manually and excisional biopsy
of the palatal mucosa was performed to exclude the
possibility of neoplasia as maggots were known to infest
neoplastic and necrotic tissues in other parts of the
human body. The patient eventually succumbed because
of congestive heart failure and nosocomial chest
infection. The present report is the second case presented
to the Tuen Mun Hospital within a 6-month period. The most important objective in the management of myiasis
is removal of all maggots. Application of ether to
the wound has been suggested in order to compel the
maggots to wiggle out of the host tissue. The wounds
can be debrided by irrigating with normal saline or
antiseptic medicaments such as 0.2% aqueous
chlorhexidine, idoform, ethyl chloride, mercuric
chloride, creosote or turpentine oil. Whitehead varnish
pack, which contains ether, can be applied to the raw
wound for protection during the healing phase. In the
present case, once the larvae were removed, the wound
debrided, together with adequate general care of the
patient, healing was uneventful. Cerebro-vascular
accidents with resultant paralysis, together with poor
oral hygiene, were two major predisposing factors for
oral myiasis in our case.

References