

Gingival Myiasis: A Case Report

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Abstract:

A 28-year-old male farmer presented with a chief complaint of itching and extreme discomfort on the entire maxillary and mandibular gingivae. He was diagnosed with gingival myiasis and scaling was performed on both jaws. However because of the multiple larvae, complete removal with simple curettage and scaling was not feasible, therefore flap surgery was performed on the maxilla. One week later the sutures were removed and healing was uneventful. The patient failed to return for the treatment of his mandibular lesions probably because the administered antibiotics had reduced his discomfort.

Key Words: Myiasis; Gingiva; Larva

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INTRODUCTION

Myiasis comes from the Greek term “myia” meaning fly and was first introduced by Hope [1] in 1840. This phrase is used to define the infestation of human and vertebrate hosts by larval stages of dipterous flies, usually known as maggots [2]. Other members of the Diptera family consist of Gasterophilidae, Sarcophagidae, Oestridae, Hypodermatidae, Calliphoridae, Glossinidae and Muscidae. These are mostly oviparous, while a limited number may be viviparous [3].

The larvae of Calliphora species are usually found in open wounds, nasal fossae, palate and eyes of human male subjects [4]. Most reported cases of myiasis involve the skin and usually develop on the head and chest of infants [5].

Oral myiasis seldom occurs in healthy individuals and is mainly found in tropical areas with poor living conditions and insufficient public and personal hygiene [6]. Oral Myiasis was first described by Laurence in 1909 [7].

Since then, many cases of myiasis affecting different human organs have been reported.

Here we present a rare case of oral myiasis with complete involvement of maxillary and mandibular gingival tissues.

CASE REPORT

A 28-year-old male farmer was referred to our private clinic with a chief complaint of gingival itching in both jaws. The patient’s medical and family histories were not significant and his overall health was good, however intraoral clinical examination revealed poor oral hygiene.

In the affected gingiva, bleeding on probing was observed in an erythematous and edematous background (Fig 1-A). Further examination with a periodontal probe disclosed the presence of living larvae within the periodontal pockets bilaterally throughout both jaws (Figs 1-B and 1-C). The ENT report indicated that other parts of the head and neck were not involved.

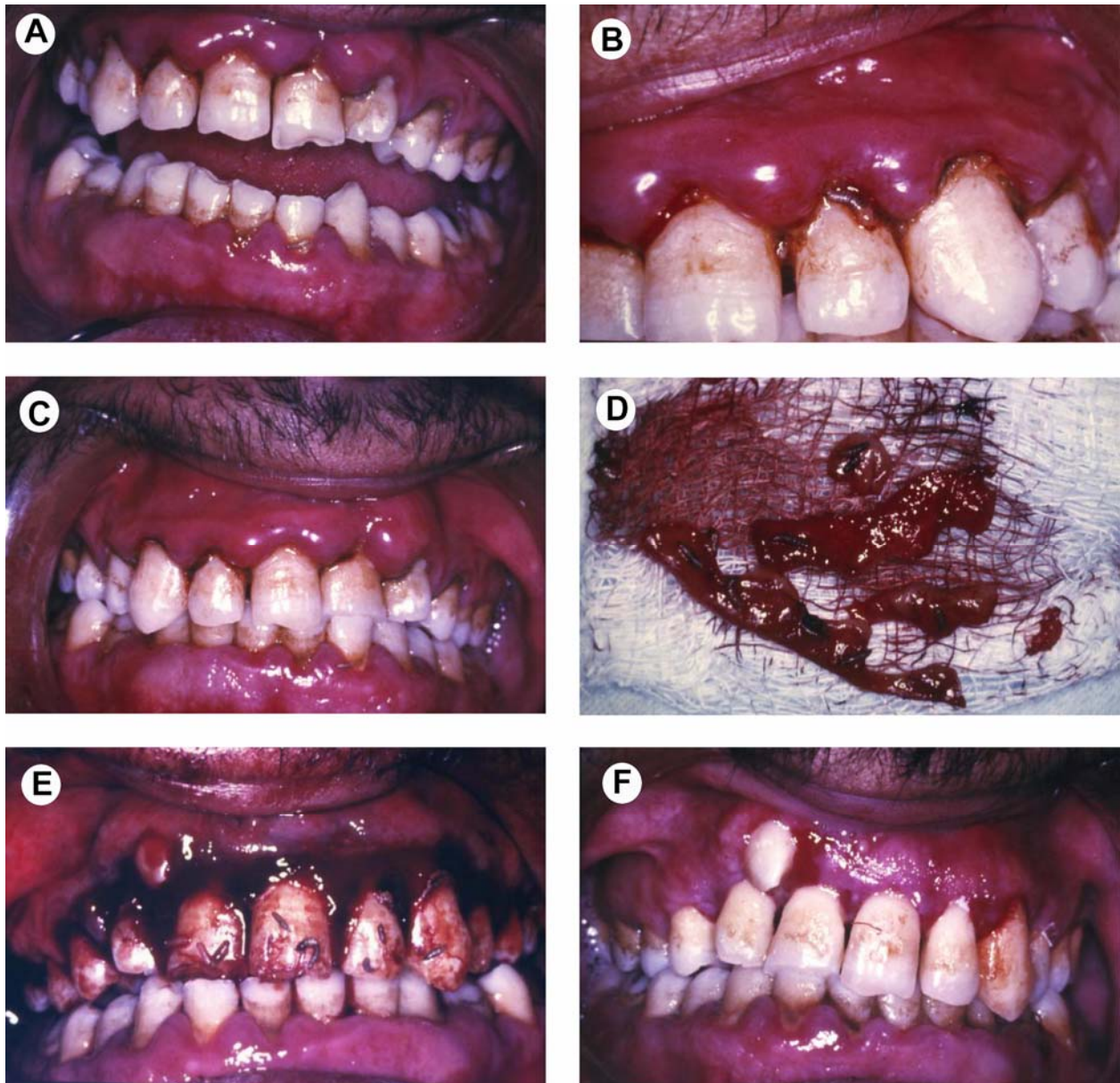


Fig 1. Affected gingiva (A); Living larvae on tooth (B,C); Granulation tissue and larvae (D,E); Maxillary gingiva after healing and canine exposure (F)

The type and morphology of the larvae was diagnosed at the Department of Parasitology, Ferdowsi University, Mashhad, Iran. According to radiographic findings the disease was not aggressive and there was no bone loss. All laboratory tests were normal. After diagnosis of gingival myiasis, scaling was performed. Considering that the multiple larvae could not be eliminated with curettage and scaling alone,

surgical flap was made in the maxilla. Following local anesthesia (2% lidocaine with 1:100000 epinephrine) the maxillary gingiva was reflected with a mucoperiosteal flap (labial and palatal) and all granulation tissue and larvae were removed (Figs 1-D and 1-E). An impacted canine was also exposed during surgery (Fig 1-F). The area was cleaned, the teeth were scaled and root planing was performed.

After irrigation with normal saline, the flaps were closed with interrupted sutures and the wound was covered by periodontal dressing (Fig 1-F). Acetaminophen (325 mg, three times per day) and Amoxicillin (500 mg, four times per day) were prescribed and necessary instructions were provided. Sutures were removed one week later and healing was uneventful. Unfortunately mandibular treatment was not carried out because the patient did not return for his next appointment.

DISCUSSION

Fly larvae or maggots may invade different tissues and produce a rare condition known as myiasis which is predominantly found in rural areas. Calliporidae and Sarcophagidae are the main myiasis agents able to complete their larval stage in human tissues [8]. According to Shah and Dayal [9], the mechanism of myiasis involves flies depositing eggs on sores or open wounds which eventually penetrate deeper into tissues allowing for larval development. Progressive destruction and cavitation occurs as the larvae grow in body tissues. The host also responds by creating a fibrous capsule to which the larvae could become tightly attached [10]. The number of viable eggs that are initially deposited in host tissues can predict the number of developing larvae in the lesion, which in turn determines the quantity of tissue damage. The host may die from severe infestation, particularly when vital organs such as the nose, eyes and ears are involved [11]. Gingival lesions in the present case were fairly extensive, indicating a large number of larvae also confirmed through surgery.

Advanced periodontal diseases contain a considerable amount of necrotic tissues that can produce a suitable substrate for the fly to lay its eggs after hatching. In addition they provide a warm and moist environment enhancing larval growth. Therefore periodontal pockets supply both nutrients and mechanical protection for the larvae.

Growth and crawling of the maggots in gingival tissues can cause itching and discomfort [12]. The treatment of choice is to completely eliminate all larvae from the involved tissues. Shah used turpentine oil to cut off the oxygen supply of the maggots that escape into affected tissues. This was followed by removing the larvae from gingival surfaces and a periodontal flap along with antibiotic administration. Our patient had a great number of maggots and we were unable to eliminate them through scaling, thus a surgical flap was made and appropriate antibiotics were prescribed. The patient was advised to come back one week later for the treatment of his lower jaw; but he failed to return, probably because the antibiotics had reduced his discomfort or perhaps he was unable to leave his job.

CONCLUSION

Accurate diagnosis and treatment of gingival myiasis can help prevent disease development and may alleviate patient discomfort.

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