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Gastric myiasis due to Oestrus species in a patient with gastric adenocarcinoma: a case report

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Introduction

Myiasis, or infestation with fly larvae, is common in domestic and wild mammals all over the world. In human, myiasis is seen relatively more frequently in rural regions where people are in close contact with domestic animals. Many different species of flies cause myiasis. Infestation with fly larvae may occur when flies deposit eggs or first-stage larvae on the body or its apertures. The portion of the body affected varies with the habits and preferences of the species of fly and may also depend on other factors. If eggs are deposited on the lips, within the mouth, or on food, they may be swallowed, and then develop in the stomach or intestine, giving rise on gastric or intestinal myiasis (1, 2).

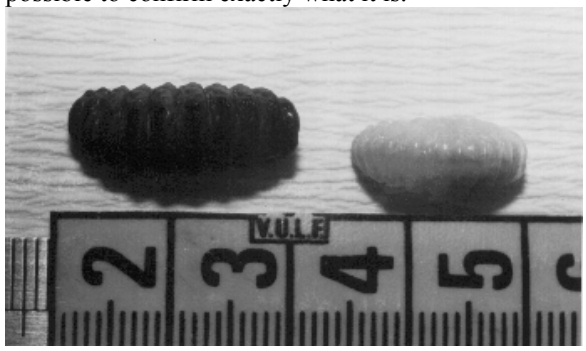
There are various types of myiasis-producing flies. An important species is the sheep botfly, Oestrus ovis. This fly is distributed worldwide, and it is prevalent in sheep-raising areas. The fly deposits living larvae in the nostrils or on the eyes of sheep and goats. In human, they may develop in the conjunctival sac and in the head cavities (1, 2).

In the present report, it was stressed on a gastric myiasis case seen in a patient with diagnosis of gastric adenocarcinoma who was followed up in the General Surgery Department of Yüzüncü Yıl University Medical School. Gastric myiasis case in human due to Oestrus sp. has not been reported elsewhere before. Therefore, we considered that it could be useful to inform our colleagues about such a case.

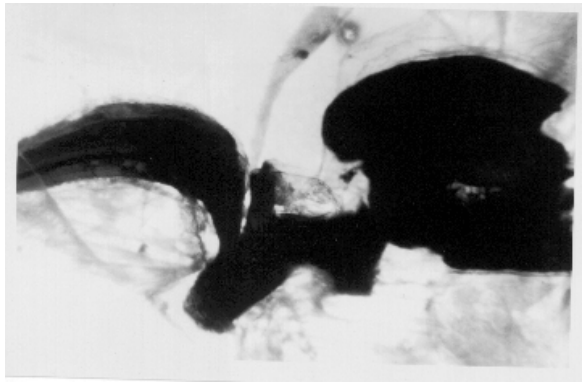
Case report

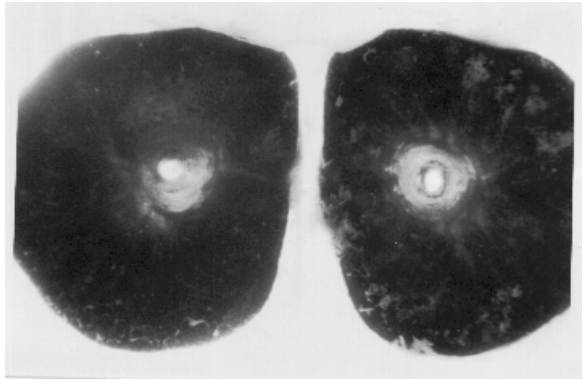
The patient was a 42 year-old man who resided in rural region. He was admitted to the General Surgery Department with complaints of abdominal distention, abdominal pain particularly on epigastric region reflected to his back, edema on lower extremities, urine darkening, extremely weight loss, appetite loss, nausea and vomiting. He also stated that he had been suffering from these complaints for one month. Furthermore, he said that he had accidentally swallowed one fly approximately 10 months ago.

The patient had seen 6 fly larvae in the vomited material which had occurred several days before General Surgery Department where he noticed 2 fly larvae by vomiting; so the total numbers of fly larvae vomited became 8. The larvae were identified as third stage larvae of Oestrus sp. by microscopic examination performed at the Parasitology Laboratory (Figure 1,2,3). These larvae were suspected to belong to Oestrus ovis fly, but it was not possible to confirm exactly what it is.



Picture 1. Third stage larval of Oestrus sp. obtained from the patient (in dorsal view)


Picture 2. Cephalo-pharyngeal skeleton of the larva


Picture 3. Posterior peritremes of the larva

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Considering that the endoscopic procedure was risky in this patient whose illness deteriorated to terminal stage, endoscopy could not be performed. Therefore, it could not be possible to image the lesions caused by these flies and to find out whether other fly larvae exist or not in the stomach.

Peritonitis carcinomatosa was observed with ascites and diffuse multiple metastatic masses in the liver and the abdominal cavity by ultrasonographic and tomographic examinations. Gastric adenocarcinoma was identified by histopathological examination of the biopsy material obtained from the palpable abdominal tumoral masses. The patient died one month after his admission to the hospital.

Discussion

In human, gastrointestinal myiasis is caused by myiasis flies belonged to Eristalis, Psychoda, Anisopus, Megaselia, Piophila, Teichomyza, Fannia, Muscina, Stomoxys, Musca, Calliphora, Sarcophaga and Chrysomya genera. (2). Flies belonged to Oestrus genus generally cause myiasis in the head cavities in animals, it rarely causes ophthalmomyiasis in human (1,2). As far as we know, a case of gastrointestinal myiasis caused by Oestrus genus either in animals or in human has not been reported yet. Swallowing the fly accidentally by the patient without chewing enabled the first stage larvae to reach to the stomach. In this patient, Oestrus sp. larvae clung to the gastric wall and grew until they reached to third stage larvae without digestion in the stomach in approximately 10 months. It is known that to develop the first stage larvae to the third stage larvae is possible in almost 10 months (2). The reason for undigestion of the fly larvae could be the presence of diffuse adenocarcinoma which would quash the peptic and motor functions through the secretion of proteolytic enzymes and gastric acid less than normal (3). As a result, the patient's digestive functions could have been disturbed at least 10 months before admission to the hospital. The patient didn't apply to a hospital neglecting his health condition in this period probably due to his low socio-economic status. If the digestive function of the stomach were normal, the larvae would have been digested in the stomach and they would not be able to grow, even though they might have reached to the stomach without destruction. Because the patient noticed the larvae at the beginning of vomiting, the location of myiasis was considered to be in stomach. In addition, respiratory or other symptoms which could be observed in condition of pharyngeal or esophageal location of the larvae and other complaints related to blockage of intestinal passage were not established.

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