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Case Report Olgu Sunumu

STRONGYLOIDES STERCORALIS: A RARE CASE DIAGNOSED WITH ESOPHAGEAL SWAB SAMPLE

Strongyloides Stercoralis: Özofageal Sürüntü Örneği Sitolojisi ile Tanı Alan Nadir Bir Olgu

Arzu Hazal AYDIN[1] Buse BAYAZIT GÖZÜKÜÇÜK[2] Nesrin TURHAN[2]

[1] *Aksaray University Aksaray Training and Research Hospital, Department of Medical Pathology, AKSARAY, TÜRKİYE*

[2] *Ankara City Hospital, Department of Medical Pathology, ANKARA, TÜRKIYE*

ABSTRACT

Strongyloides stercoralis is an opportunistic parasite that may cause severe and fatal disease in immunocompromised hosts. A 70-year-old man with a nonspecific history except pneumoconiosis had diffuse ulcers on the esophagus. Hence, only a swab sample could be performed. On microscopic examination of the swab sample, larvae and soils were observed in necrotic and inflammatory background. It was evaluated as compatible with S. stercoralis. At repeated endoscopic examination multiple biopsies were taken from the stomach. Larvae and soils were detected in crypt lumens with chronic inflammation in gastric mucosa. We presented this case with gastric involvement as a rare presentation that has not been reported in the literature before and was diagnosed by esophageal swab sample. Although infection is usually asymptomatic in the chronic phase, it carries a high mortality risk in immunocompromised hosts. So, it is important to scan the risk group. Swab sampling is an easy method for cytological examination.

Keywords: *Strongyloides stercoralis, swab sample, esophagus, immunocompromised*

ÖZ

Strongyloides stercoralis immün sistemi baskılanmış bireylerde şiddetli ve ölümcül hastalık tablosu oluşturabilen fırsatçı bir parazittir. Pnömokonyoz dışında bilinen spesifik öyküsü olmayan 70 yaşında erkek hastanın endoskopik muayenesinde özofagusta diffüz ülser saptandı. Bu nedenle lezyonlardan sadece sürüntü örneği alınabildi. Sürüntü örneğinin mikroskobik incelemesinde nekrotik ve inflamatuar zeminde izlenen larva ve yumurta yapıları *S stercoralis* ile uyumlu olarak değerlendirildi. Tekrarlanan endoskopide mideden biyopsiler alındı. Biyopsi örneklerinde gastrik mukozada kronik inflamasyon ile kript lümenlerinde *S.stercoralis* larvaları ve yumurtaları gözlendi. Biz de literatürde daha önce bildirilmemiş ve özofageal sürüntü yayma ile tanı verilmiş nadir bir prezentasyon olarak mide tutulumu olan bu olguyu sunduk. *S. stercoralis* kronik dönemde asemptomatik olmakla birlikte, immünkompromize bireylerde infeksiyon yüksek mortalite riski taşır. Bu nedenle risk gruplarının taranması önemlidir. Sürüntü örneklemesi sitolojik inceleme için kolay bir yöntemdir.

Anahtar Kelimeler: *Strongyloides stercoralis, sürüntü örneği, özofagus, immünkompromize*

Correspondence / Yazışma Adresi: **Dr. Arzu Hazal AYDIN**
Aksaray University Aksaray Training and Research Hospital, Department of Medical Pathology, AKSARAY, TÜRKİYE
Phone / Tel: +905053480670 **E-mail** / E-posta: arzu.hazal.aydin@gmail.com
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INTRODUCTION

Strongyloides stercoralis (S. stercoralis) is an intestinal nematode that has a sophisticated life cycle (1,2). Local reactions where the parasite enters may be seen in acute period in infected individuals, while it is usually asymptomatic in chronic period (3). *S.stercoralis* might involve the gastrointestinal, cardiopulmonary, central nervous system and skin (4,5). Symptoms can vary according to the parasite load and involved organ. Although the infection caused by *S. stercoralis* is usually asymptomatic, in immunocompromised host it could be severe and fatal with hyperinfection/ autoinfection (3,6).

In the gastrointestinal tract, duodenal mucosa is mostly involved, whereas gastric mucosa is rarely involved (7,8). At biopsy, larvae and soils may be seen with ulcer. The distortion at crypts can be observed caused by numerous larvae and soils. Lymphoplasmacytic reaction with abundant neutrophilic and/or eosinophilic infiltrate could be detected in the mucosa (9). Granulomas could be seen in *S.stercoralis* infections occasionally. While the larvae are recognized with sharply ended tails typically, soils are basophilic granular clump that is embedded in mucosal crypts.

In this report, we presented a case that was diagnosed with an esophageal swab sample. To our best knowledge, such a case has not been reported in the literature yet.

CASE REPORT

A 70-year-old man with pneumoconiosis, applied to emergency service with oral intake disorder. He had no specific medical history except the cholecystectomy. An informed consent was obtained from the patient. His endoscopic examination showed linear erosion including 75% of his esophagus from proximal to distal. There were diffuse ulcers, hence a biopsy couldn't be performed. Only an esophageal swab sample could be taken. Squamous epithelial fragments, eosinophils and polymorphonuclear leukocytes on the necrotic background were seen on this sample. In some areas larvae and soils were observed (Figure 1).

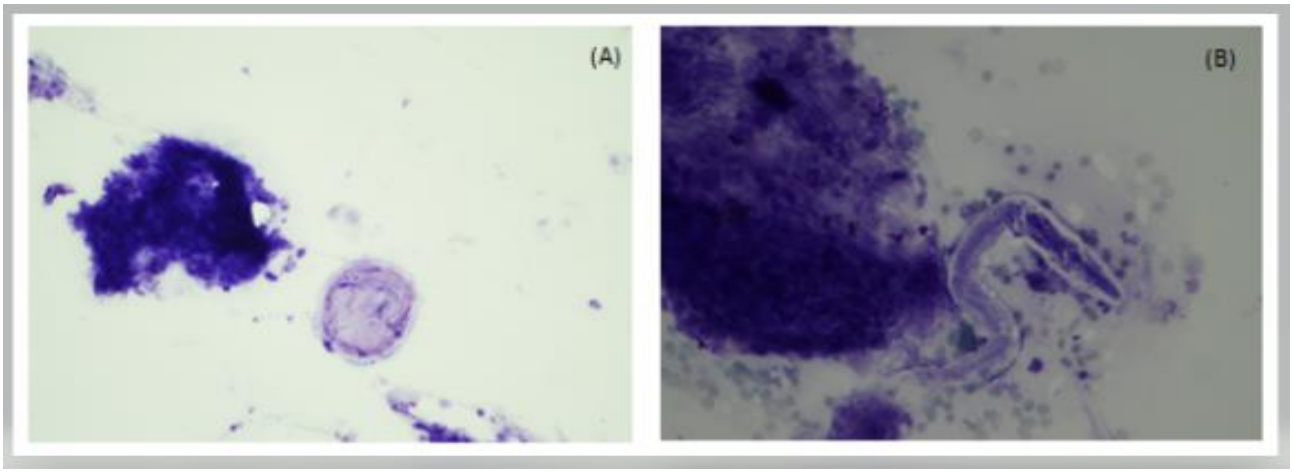

Figure 1. Squamous epithelial fragments, eosinophils, polymorphonuclear leukocytes, larvae and soils on the necrotic background (A and B).

It was reported to the clinic that may correspond to *S. stercoralis*, then another esophagogastroduodenoscopy was performed. There was an extensive erosion at the esophagus. While the esophagogastric junction and cardia were normal; the mucosa was erythematous and erosive in some areas on the fundus, corpus, and antrum. Bulbus and duodenum were edematous and hyperemic. Ulcers involving nodular patterns were seen at the distal duodenum. Many biopsies were conducted. These samples exhibited chronic inflammation and distortions of gland architecture. In crypt lumens, soils as aggregations with basophilic granular appearance and typical larva structure with sharply ended tails were seen (Figure 2).

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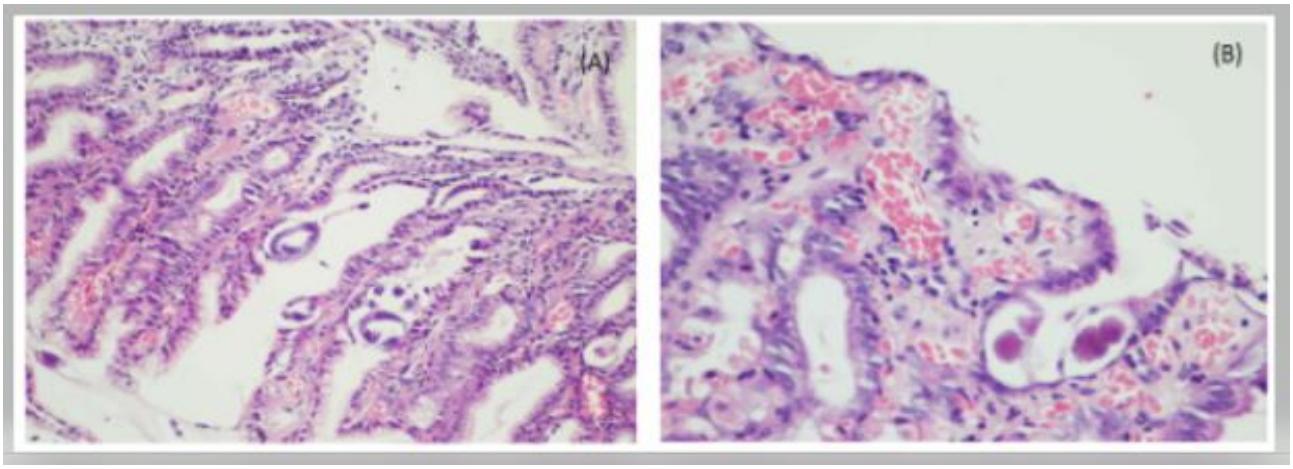

Figure 2. Chronic inflammation and distortions of gland architecture (A). Soils as aggregations with basophilic granular appearance and typical larva structure with sharply ended tails in crypt lumens (A and B).

Concurrent fresh sampling from gastric and esophageal fluid studied by spreading between slides was examined with biopsies. The biopsy and swab samples were evaluated as compatible with *S.stercoralis*.

DISCUSSION

S. stercoralis is an opportunistic infectious agent affecting 30 to 100 million people worldwide (2). There are regions where the infection is endemic, and cases have started to increase in non-endemic regions due to globalization and migration (2,10).

Infected individuals with *S. stercoralis* are usually asymptomatic. However, an association between the infection and immunodeficiency such as using immunosuppressive drugs, hematologic malignancies, infections with HTLV-1 and HIV, and transplant patients may cause a hyperinfection (6,11). Furthermore, this scenario may be severe and have a high mortality risk (3,11). In addition male gender, working with the soil (such as coal mines and farms) and being white race are known risk factors for developing this disease (12,13). It can be prevented by detecting infection in asymptomatic individuals. Particularly in risk groups that have a history of traveling endemic zones or begin using immunosuppressive agents, working with soil can be scanned.

As we mentioned above our patient had pneumoconiosis. Any clinical information about the etiology of his pneumoconiosis could not be obtained. However, we think that this condition may have triggered to have infection with *S. stercoralis* in our patient. In the literature there has been cases diagnosed by cytology from bronchial washing specimen and ascites fluid (14,15). However, there has not been a case diagnosed with a swab sample from the esophagus in the literature yet.

Conflict of Interest: All authors declare that there is no conflict of interest.

Researchers' Contribution Rate Statement: All authors made substantial contributions to the article. Idea-planning: AHA, BBG, NT; analysis-interpretation: AHA, BBG, NT; data acquisition: BBG, NT; manuscript preparation AHA, NT and final manuscript approval AHA, BBG, NT.

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