

Gastric Strongyloidiasis in a Diabetic Patient

Diyabetik Bir Hastada Gastrik Strongiloidiazis

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ABSTRACT

Strongyloidiasis is a common parasitic infection. Gastric location of the parasite is quite rare. Patients at risk are those undergoing immunosuppressive therapy, individuals with malignant hematologic disorders, transplantations, diabetes mellitus, malnutrition, chronic renal failure, chronic alcohol consumption, patients with acquired immune deficiency syndrome and elderly people. We report an atypical presentation of strongyloidiasis with gastric involvement in a diabetic patient.

Key Words: Strongyloidiasis, Diabetes mellitus, Stomach

ÖZ

Strongiloides sık görülen bir parazitik enfeksiyondur. Parazitin gastrik lokalizasyonu nadirdir. İmmün sistem baskılanması, hematolojik malignite, transplantasyon, diyabet, malnütrisyon, kronik böbrek yetmezliği, alkolizm, HIV enfeksiyonu ve yaşlılık durumlarında strongiloidesin görülme sıklığı artar. Biz diyabetik bir hastada strongiloidiazisin atipik gastrik prezentasyonunu rapor ettik.

Anahtar Sözcükler: Strongiloidiazis, Diyabet, Mide

INTRODUCTION

Strongyloides stercoralis is an intestinal helminth of class Nematoda, which infects the small intestine of humans. Strongyloidiasis is characterized by parasitic-endogenous and free-living-exogenous life cycles. These nematodes can be observed throughout the world, but they are endemic in some regions especially in Africa, West Indies, Southeast Asia, South America, Bangladesh and Pakistan (1). Strongyloidiasis can present with a wide variety of symptoms, sometimes with mild to moderate gastrointestinal complaints, sometimes with allergic skin rash. Moreover, delayed diagnosis and treatment may lead to opportunistic infections called hyperinfection and may be fatal in some patients especially those with underlying serious diseases (2). Hyperinfection syndrome occurs when the normal life cycle of the parasite in humans is augmented, resulting in massive infection of the gastrointestinal tract, circulatory system, and lungs (3). This type of opportunistic infection can be seen in patients with malnutrition, malignancy, organ transplantation, diabetes, AIDS, or during immunosuppressive treatment (2,4). The diagnosis of strongyloidiasis in humans is based on finding rhabditoid larvae of the parasite in fresh

fecal material or after stool concentration techniques. The histological diagnosis of strongyloidiasis from endoscopic biopsies and surgical specimens is usually incidental. The identification of *Strongyloides stercoralis* in tissues is often difficult possibly because of scarcity of parasites, their small size, and because pathologists are usually not familiar with this parasite (4).

CASE REPORT

A 78-year-old male patient had admitted to local state hospital with complaints of epigastric pain, nausea and vomiting. He had suffered from these complaints for two months. An upper gastrointestinal endoscopy had revealed hyperemia and erosions at gastric antrum. The patient had been discharged after a twenty days of treatment with relief from the symptoms. The same symptoms recurred after a short period and he was referred to our hospital. Meanwhile he had lost 25 kg. At his admittance, physical examination was almost normal other than peripheral edema. Laboratory examination revealed a hyperglycemia of 161 mg/dl and hypokalemia with hypochloremia. An upper gastrointestinal endoscopic examination was repeated and esophagitis was observed at the lower segment

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of the esophagus. The cardia and fundus were normal, while edema was observed at corpus and antrum (Figure 1). Histopathological examination of the gastric biopsy revealed adult forms of *Strongyloides stercoralis* in gland lumens and lamina propria accompanied by mixed inflammatory cell infiltration consisting of numerous plasma cells, lymphocytes, eosinophils, and a few neutrophils (Figure 2-3). In addition, gastric epithelium showed regenerative changes. The patient did not receive a specific treatment for strongyloidiasis as he refused treatment.

DISCUSSION

Strongyloidiasis is a common parasitic infection that affects 30 to 100 million people worldwide (5). Strongyloidiasis is traditionally considered a tropical and subtropical disease. However, factors like globalism and migration have changed this geographical distribution (6). The frequency of strongyloidiasis among intestinal parasitic infestations

was found 0.2 % in Turkey in a recent study (7). Males older than 60 years are the most frequently affected subjects (8).

The clinical presentation of *S. stercoralis* may be quite variable. The first attack can be very acute or even silent. Fever and chills may be present. Other constitutional symptoms such as fatigue, weakness, and pain all over the body may accompany the clinical course. Blood counts performed during hyperinfection may show eosinophilia but may also show a suppressed eosinophil count. Patients with eosinophilia often have a better prognosis (9). Gastrointestinal symptoms are the most frequent complaints but they are nonspecific. Abdominal pain, diarrhea, constipation, anorexia, weight loss, throat pain, nausea, vomiting, and gastrointestinal bleeding are the known symptoms of the disease. Hypokalemia and other electrolyte abnormalities may reflect these gastrointestinal disturbances (10).

Rhabditiform and filariform larvae may be seen in the microscopic evaluation of fresh fecal material while adult worms or eggs of the parasite are less common (11). Occult or frank bleeding may be present. Esophagitis, gastritis, duodenitis, ileitis, pseudomembranous colitis, and proctitis have been reported with this parasite. Mucosal ulceration is most frequently seen in the small intestine, but may be present through the entire gastrointestinal tract (9).

This infection is usually located at the duodenum or jejunum, while gastric location of the parasite is quite rare. The parasites in gastric and duodenal locations are found in the gastric crypts or in the duodenal glands. The most common finding in histological evaluation of the biopsies is a non-pathognomonic acute or chronic gastritis or



Figure 1: Edema and hyperemia observed at the antrum.

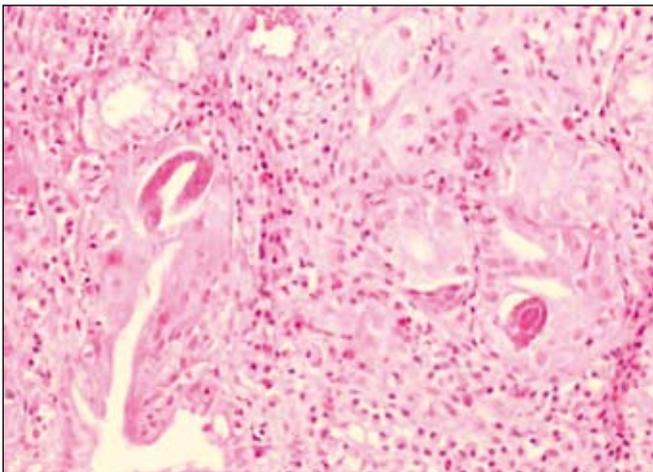


Figure 2: Gastric biopsy revealed inflammatory infiltrates consisting of numerous eosinophils and few parasites (H&E, x200).

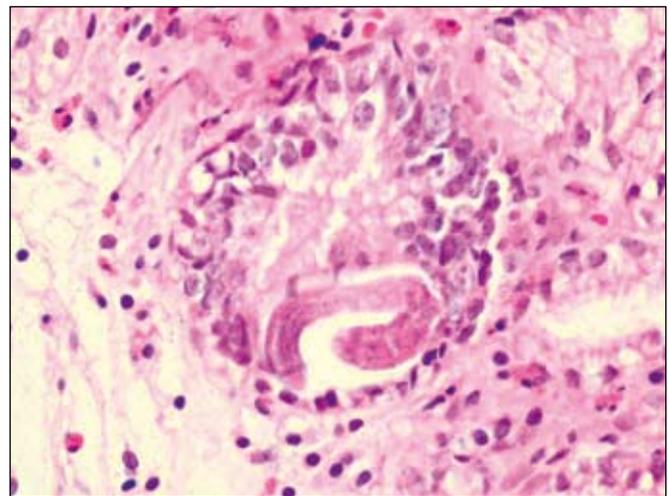


Figure 3: Adult form of *Strongyloides stercoralis* larvae shown in the crypts of gastric epithelium (H&E, x400).

duodenitis (12). The infection is usually asymptomatic. However, strongyloidiasis infection should be considered if symptoms such as abdominal discomfort, chronic diarrhea, nausea, vomiting, anorexia and weight loss are present (4). Massive infection may occur in the immunocompromised host, causing the hyperinfection syndrome or disseminated strongyloidiasis. Patients at risk are those undergoing immunosuppressive therapy, individuals with malignant hematologic disorders, transplantations, diabetes mellitus, malnutrition, chronic renal failure, chronic alcohol consumption, patients with acquired immune deficiency syndrome and elderly people (2,4,13). We have reported an atypical presentation of strongyloidiasis with gastric involvement in a diabetic patient.

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