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Ascaris lumbricoides in the oral cavity: a case report

YILMAZ H.[1], TÜRKDOĞAN M. K.[2], AKDENİZ H.[3], KATI İ.[4], , DEMİRÖZ A. P.[3]
Departments of Microbiology & Clinical Microbiology[1], Gastroenterology[2], Clinical Microbiology & Infectious Diseases[3] and Anesthesiology[4], School of Medicine, Yüzüncü Yıl University, Van

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Introduction

Ascaris lumbricoides is found throughout the temperate and tropical areas of the globe. Under poor sanitation the parasite can be seen in 100% of the population (1).

Ascariosis has higher infection rates compared to other parasite species. The parasite has been demonstrated to infest as many as 1 billion people especially seen in the socio-economically underdeveloped countries. The infestation occurs by fecal-oral route (2, 3). It is cosmopolitan in distribution, being more prevalent in the areas of poor sanitation and where human feces are used for fertilizer (1-3).

A few adults worm in the bowel may immigrate up to the esophagus from where they may enter to the respiratory passage or bronchial tree leading to asphyxia. The worms can occasionally cause death when they are passing through the larynx (3). In this paper, we report a case of a young form of *A.lumbricoides* seen in the oral cavity of a general anesthetized patient. The case might be useful to inform our colleagues that particular care precautions must be taken.

Case report

A young *A.lumbricoides* was seen in the oral cavity of a 45 year old male patient who was in the last stage of general anesthesia during a surgical operation at the Research Hospital of the School of Medicine, Yüzüncü Yıl University. This worm was taken out from the oral cavity of the patient and put into a bottle which contained 70% alcohol and sent to the Parasitology Laboratory of the Hospital.

After the examination of the worm under the stereomicroscope, it was identified as a young form of *A.lumbricoides* which had 12.7 cm length and 2.5 mm diameter.

From the records present in his file, it was understood that the patient had some gastrointestinal complaints, and a lot of *A.lumbricoides* eggs had been found in stool samples of the patient. The patient's peripheral blood counts were in normal range, except slightly increase of eosinophils (8%).

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Because the patient came to the hospital due to some orthopedic problems, our other parasitological examination remained limited.

Discussion

The prevalence of *A.lumbricoides* varies in different countries (1). *A.lumbricoides* infestation is seen all over Turkey, and its prevalence varies between 7.42% and 74.4% (2). The prevalence of this parasite has been reported in different rates ranging between 12.99% to 49.03% in some other studies in Van province (4).

Female worms range between 20-35 cm in length and 5-6 mm in diameter while males are generally 15-25 cm in length and 3-5 mm in diameter. The female worms may be as thick as a pencil; the males are definitely more slender and may be distinguished by an incurved tail. Both sexes are creamy white, sometimes with a pinkish cast, the cuticle has fine circular striations (1-3).

In this case, parasite was a small one and 12.7 cm in length and 2.5 mm in diameter, so it was considered as a young *A.lumbricoides*. This parasite had morphological features of a young female. However, this parasite eggs found in the stool samples of the patient indicates that there were at least one or more sexually mature female of the parasite.

A.lumbricoides infestation may cause miscellaneous complications and symptoms involving gastrointestinal system and other sites. The adult worms in the small intestine may produce traumatic or toxic damage (1). Large masses of worms may produce intestinal obstruction especially in the region of ileocecal valve. There may be perforation of the bowel wall with peritonitis or penetration into other ectopic areas.
A.lumbricoides in the appendix may also lead to appendicitis and in the common bile duct to obstructive jaundice and pancreatitis (1-3). Sensitization and allergic symptoms due to the obstruction of toxic products of the worm may develop. During the migration in the lungs, larvae may rupture the alveoli and cause a hypersensitivity or inflammatory reaction. Migration of larvae through the lung may produce severe bronchopneumonia. Worms may also migrate to the larynx and interfere with respiration during general anesthesia (5). The migration of the worm is

uncommon; however, it may be provoked by fever, certain drugs and anesthetic agents (1). A heavy infection is likely to cause bowel obstruction (especially in children); abdominal distention, tenderness and vomiting may commonly seen (1-3). Additionally, cholangiocarcinoma was rarely reported during ascariosis in the liver (6). Because of the problems described above, treatment of patients especially receiving anesthesia and undergoing gastrointestinal system operation is important.

We think that the most important factor for the parasite to reach up to the oral cavity is the provocation of anesthetic agents. The horizontal posture of the patient can also facilitate this movement of the parasite. It is difficult for these parasites to forward up to the mouth without anesthesia and with a vertical posture, due to their poor mobilities. Under normal circumstances, because gastric HCl and pepsin are released at normal levels and cardio-oesophagial sphincter is closed, it does not seem to be likely for the parasite to reach the mouth through the gaster. It is known that, in a patient under anesthesia, cardio-oesophagial sphincter is in relaxation; the releasing of gastric HCl and pepsin decrease, and swallowing reflex is not present. The reason for decreared relasing of gastic HCl is the administration of H_2-receptor antogist drugs to the patient during anesthesia, as in our case. Only under these circumstances, the parasite can reach up to the oral cavity without any distraction (7).

In studies undertaken in Van, as other intestinal parasites, *A.lumbricoides* was found abundantly as well (4). Therefore, investigation of patients coming to our hospital taking particular care for intestinal parasites is very important.

In conclusion; *A.lumbricoides* depending on the provocation by anesthetic agents, may cause varies complications coming up to the mouth or blocking some ducts. This is a very important point to be considered. Therefore, parasitologic examinations and the medical treatment in case of ascariosis are essential for patients undergoing anesthesia.

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Correspondence to:

Dr. Hasan YILMAZ

Yüzüncü Yıl Üniversitesi Tıp Fakültesi

Mikrobiyoloji ve Klinik Mikrobiyoloji ABD

Van, TÜRKİYE