Case Report

Ascaris Worm in Nasogastric Tube Aspirate

Sravya Inavolu[1], Kurimilla Archana[2], Rajesh B[3], Vamshi Krishna TV [4], Sanjay H Kalbande[5]

[1,2,3] Residents
[4] Assistant Professor
[5] Professor and Head
Department of General Medicine
Chalmeda Anand Rao
Institute of Medical Sciences
Karimnagar - 505 001
Telangana, India.

CORRESPONDENCE:

Dr. Sanjay H Kalbande
MD (Gen. Medicine)
Prof. & HOD
Dept. of General Medicine
Chalmeda Anand Rao
Institute of Medical Sciences
Karimnagar - 505 001
Telangana, India.
Email: docsanjay27@yahoo.com

ABSTRACT

Most cases of round worm infestations are asymptomatic. Their migration to various unusual sites in the gastrointestinal tract and respiratory tract may cause complications. Accumulation of worms inside the intestinal lumen can lead to obstruction, intussuception, or volvulus. However, migration of the worm in the stomach and consequent hematemesis is a very rare complication. Mechanism of hematemesis is assumed to be erosion of the mucosa either by mechanical process or by the secretions of the worm. We report a case of 23 years, young female admitted in intensive care unit , for organophosphorous poisoning, on invasive mechanical ventilation, who had coffee ground contents and later ascaris worm in her nasogastric tube aspirate, around 4 days after admission which interfered with the ongoing treatment and prolonged hospital stay.

Keywords:

Ascaris lumbricoides, hematemesis, gastric ascariasis, nasogastric tube, aspiration

INTRODUCTION

Ascaris lumbricoides, commonly known as round worms, are the largest nematodes that infest human beings in tropical and subtropical areas.[1, 2] It is the most common helminthic infestation, with an estimated world prevalence of 25%. Humans acquire them by ingesting embryonated eggs present in unhygienic food and hatch in the duodenum.[3] The small larvae penetrate the duodenal mucosa, reach lungs through portal circulation, and moult there twice. They ascend the tracheobronchial tree, swallowed, and lodge in small intestine to become adult worms and cause obstruction.[1, 4]

Migration of the worms in the stomach in rare instances can lead to various uncommon complications. Occurrence of simultaneous coffee ground contents and aspiration of live worms through the nasogastric tube and the additional complications it causes in a critically ill patient , promoted us to report this case.[4]

CASE REPORT

A case of a 23 years young female, admitted in intensive care unit, under the Department of General Medicine,

CAIMS , Karimnagar, who was alleged to have consumed organophosphorous poison (50 ml of 50% chlorpyrifos), was intubated in view of respiratory distress and depressed level of consciousness and was on invasive mechanical ventilation. Treatment with atropine and pralidoxime and other supportive treatment was being given. She hails from a rural background with poor socioeconomic status. Her past history revealed no significant gastrointestinal complaints or prior comorbidities. Blood investigations showed no eosinophilia, no anemia and normal coagulation profile. Chest xray and abdominal CT were normal. She was nil per oral and on 3rd day of admission, there was frank blood noted in the nasogastric tube aspirate. Stomach wash with normal saline and botroclot drops; intravenous pantoprazole, ethamsylate , brotropase and tranexamic acid were given to control the bleed. Later the next day, there was coffee ground gastric contents, along with a 14 cm long thread like cylindrical content aspirated through the nasogastric tube, which was later found to be round worm (A. lumbricoides) on microbiological examination. A total of 3 worms were aspirated in 2 days. Stool was sent for examination, which also showed ova of ascaris lumbricoides. She was treated with antihelminthics.

DISCUSSION

Ascariasis is a common helminthic infection in the world .[1, 3] Due to the feco-oral route of transmission, it is more prevalent in countries with poor sanitation. Most cases are asymptomatic.[3]

The adult Ascaris worm, normally resides in the jejunum and proximal ileum.[2] Migration to the stomach is rare due to the highly acidic milieu and strong peristalsis of the stomach.[3,4] But, when irritated by stress like trauma, certain drugs or anesthetic agents, absent peristalsis, absent enteral feeding along with proton pump inhibitors, prolonged supine position of the patient, may migrate

Figure 1. Cylindrical, round, long worm like structure noticed in the NG tube.

Figure 2. Round worm like structure with blood aspirated from NG tube.

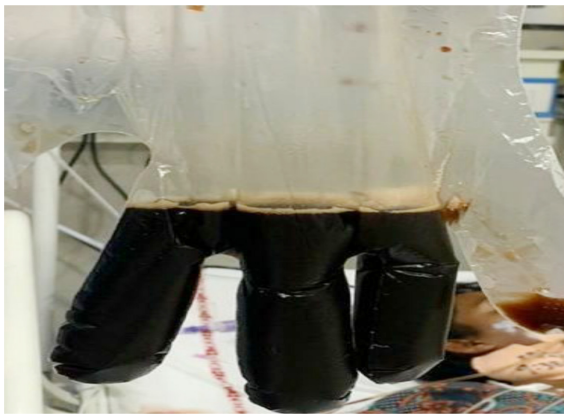

Figure 3. Coffee ground gastric contents aspirated from the NG tube (S/o upper GI bleed)

Figure 4. Coffee ground gastric contents collected, approx. 150ml in 2 days

upwards towards the stomach , out of esophagus into the trachea leading to sudden life threatening upper airway obstruction and respiratory distress.[2, 4]

Anisakis simplex and Pseudoterranova decipiens are the nematodes that are known to cause hematemesis.[5] Hematemesis from gastric ascariasis is very rare, only reported in some isolated case reports.[6] Most of them found the worms attached to blood oozing erosions in the stomach, indicating mechanical process of bleeding. However, mucosal irritation by worm's secretions has also been proposed as the mechanism of bleeding .

This is an undiagnosed case of Ascariasis. Factors like decreased acidic milieu, peristalsis, nil per oral , prolonged supine position, mechanical ventilation during the treatment for OP poisoning , caused irritation of the worms, which led to the migration of worms upwards further adding to complications and prolongation of hospital stay.

CONCLUSION

It is worthwhile to understand the importance of improved sanitation and periodic deworming to prevent and/ or treat undiagnosed worm infestations especially in the tropical and subtropical countries.

CONFLICT OF INTEREST:

The authors declared no conflict of interest.

FUNDING: None

REFERENCES

1. Merdassa Roro G, Sultsn Seid A,Wong D. Gastric Outlet Obstruction Caused by a Tapeworm: An Uncommon Presentation of a Common Parasite. *Am J Trop Med Hyg.* 2020 ;103(6):21-55.

2. Maryam Hajizadeh , Mohammad Taghi Rahimi, Adel Spolin, Ehsan Ahmadpour. A Rare Cause of Dysphagia: Pharyngeal Ascariasis. *J Parasit Dis.* 2016: 40(4):1411-1413.

3. Kobayashi,Tsuyuzaki. Ascaris lumbricoides discharge from the mouth. *Case Rep Gastroenterol.* 2018: 12:153-157.

4. Ping-Ping Zheng, Bing-Yuan Wang, Fei Wang ,Ving Wang. Esophageal Space Occupying Lesion Caused by Ascaris lumbricoides. *World J Gastroenterol.* 2012; 18(13) 1552-1554.

5. Mohammed Ahmad, Praveen Kumar Malik, Shahnawaz Hassan , Shridhar Dwiredi. Ascariasis Presenting as Hematemesis in a Young Boy. *J Health Res Reviews.* 2015;2(1) 37- 38.

6. Uysal E, Dokur M.The Helminths Causing Surgical or Endoscopic Abdominal Intervention. *Iran J Parasitol.* 2017; 12(2):156-168.