

A Rare Cause of Acute Appendicitis, *Ascaris lumbricoides*: Case Report

Nadir Bir Akut Apendisit Sebebi,
Ascaris lumbricoides

Murat Burç YAZICIOĞLU,^a
Çağrı TIRYAKI,^a
Mustafa Celalettin HAKSAL,^a
Ali ÇİFTÇİ,^a
Selim Yiğit YILDIZ^a

^aClinic of General Surgery,
Kocaeli Derince Training and
Research Hospital, Kocaeli

Geliş Tarihi/Received: 23.11.2014
Kabul Tarihi/Accepted: 09.04.2015

This case report was presented as a poster at
Congress of 19th National General Surgery,
16-20 April 2014, Antalya.

Yazışma Adresi/Correspondence:
Çağrı TIRYAKI
Kocaeli Derince Training and
Research Hospital,
Clinic of General Surgery, Kocaeli,
TÜRKİYE/TURKEY
drcagritiryaki@hotmail.com

ABSTRACT Appendicitis is the most common condition causing acute abdomen. The relationship of parasitic infestation with acute appendicitis has been a controversial issue. A 41-years-old female patient presented with abdominal pain in the right lower quadrant for 48 hours, followed by nausea and vomiting. She underwent laparotomy with a McBurney's incision. We could identify appendicitis with the presence of an *Ascaris lumbricoides* worm occupying the appendiceal lumen and extending to the cecum and ileocecal valve. In our opinion *Ascaris lumbricoides* with acute appendicitis is rare clinical case; especially for nonendemic areas. Even if it is a rare condition, it should be kept in mind.

Key Words: *Ascaris lumbricoides*; abdomen, acute

ÖZET Akut apandisit akut batın tablosunun en sık karşılaşılan sebebidir. Parazitik enfestasyonların akut apandisit ile ilişkisi tartışmalı bir konudur. 41 yaşında kadın hasta 48 saatir olan sağ alt karın ağrısı, bulantı ve kusma ile başvurdu. McBurney insizyonu ile laparotomi uygulandı. Apendiks lümeninde ve çekum ile ileoçekal valve doğru uzanan *Ascaris lumbricoides* ile apandisit hali tespit edildi. Bize göre özellikle nonendemik bölgelerde *Ascaris lumbricoides* ve akut apandisit birlikteliği nadir bir klinik durumdur. Nadir bir durum olsa bile akılda tutulması gerekmektedir.

Anahtar Kelimeler: *Ascaris lumbricoides*; karın, akut

Türkiye Klinikleri J Case Rep 2016;24(1):39-41

Appendicitis is the most common condition causing acute abdomen. Pathogenesis of appendicitis is based on the obstruction of the appendiceal lumen.¹ Parasitic infestation which is related with acute appendicitis has been a controversial issue in terms of it's role in the etiology of acute appendicitis.² *Ascaris* worms could be found in people of all ages. However particularly children are the most probably to be heavily infected. Moreover adult *Ascaris lumbricoides* is a rare cause of appendicitis.³ In this study we present the case of acute appendicitis resulting from adult form of *Ascaris lumbricoides* in adult patient.

CASE REPORT

A 41-years-old female patient presented with abdominal pain in the right lower quadrant for 48 hours, followed by nausea and vomiting. She had

doi: 10.5336/caserep.2014-42551

Copyright © 2016 by Türkiye Klinikleri

mild fever (axillary temperature=37,7°C). On physical examination, the abdomen; especially right lower quadrant was severely sensitive when palpated by physician. She was subjected to whole blood tests which were normal. Abdominal x-ray and urine tests were also performed. Both tests did not include any abnormality. In addition abdominal ultrasonography described cecal appendix with thickened wall. Eventually the patient was taken to the emergency operating room. She underwent laparotomy with a McBurney's incision. We could identify appendicitis with the presence of an *Ascaris lumbricoides* worm occupying the appendiceal lumen and extending to the cecum and ileocecal valve. Furthermore, it reached inside of distal ileum. Firstly, we performed enterotomy for *Ascaris lumbricoides* and took it out of ileum (Figure 1). Then we performed appendectomy for acute appendicitis and enterotomy was opened up. In the 11th day of hospitalisation, patient was discharged uneventfully.

DISCUSSION

The probability of an individual to have acute appendicitis in his life is approximately 8%.⁴

There are different pathological situations causing to obstruction of appendiceal lumen. Both hyperplasia of the lymphoid follicles and fecaliths



FIGURE 1: *Ascaris lumbricoides*.

comprise ninety-five percent of these conditions.² The incidence of helminthic infestation with acute appendicitis is different. It can range from 1,5% to 27,2% in endemic areas.² According to a study *Ascaris lumbricoides* was the encountered parasite in 1,4% and 0,4% respectively in appendiceal specimens.⁵ Zakaria et al. investigated the information collected in 1590 appendectomy patients retrospectively. They showed *Ascaris lumbricoides* infestation with acute appendicitis in 23 patient. This number was 26,1% among the other parasitic infestations.⁵ Dorfman et al. investigated 830 appendectomy cases, found that parasites were present in 62 cases and *Ascaris lumbricoides* and *Trichuris trichiura* were the most frequently encountered parasites.⁶ Karatepe et al. found *Ascaris lumbricoides* with acute appendicitis in 4 patient (0,078%) among 5100 patients.⁷ In our hospital, we have performed about 3000 appendectomy during last five year. We determined only one case of *Ascaris lumbricoides* with acute appendicitis. Because our region is very industrialized and farming is very rare, we encounter this condition rarely. Our findings are compatible with general literature in terms of rate of *Ascaris lumbricoides* in nonendemic territories.

As a matter of fact the actual role of parasitic infestation as co-factor in appendicitis is still a controversial issue.⁷ Obstruction of the lumen by parasites or secondary inflammation depending on presence of parasite and/or its ova in the lumen may cause acute appendicitis. However some researchers think that parasites are not cause of appendicitis.⁷ In our case *A. lumbricoides* itself caused acute appendicitis by obstruction of appendiceal lumen.

As a conclusion we believe that adult *Ascaris lumbricoides* may cause acute appendicitis by obstructing the lumen. When the *Ascaris lumbricoides* is detected in the operation, systemic infestation should be treated in order to clear any other possible area of subclinical parasitic infestation after surgery. Even if it is a rare condition, it should be kept in mind.

REFERENCES

1. Marjanovic Z, Spasic Z, Zivanovic D, Kostic A, Dordevic I, Zdravkovic D. Akutni apendicitis kod dece uzrasta do tri godine. *Srp Arh Celok Lek* 2006;134(5-6):203-7.
2. Sforza M, Andjelkov K, Zaccheddu R, Ivanov D, Krstić S, Paganelli A. An unusual case of ascariasis of the appendix. *Srp Arh Celok Lek* 2011;139(11-12):809-11.
3. Wani I, Magbool M, Amin A, Shah F, Keema A, Shah F, et al. Appendiceal ascariasis in children. *Ann Saudi Med* 2010; 30(1):63-6.
4. Kouskos E, Komaitis S, Kouskou M, Despotelis M, Sanidas G. Complicated acute appendicitis within a right inguinal hernia sac (Amyand's hernia): report of a case. *Hippokratia* 2014;18(1):74-6.
5. Zakaria OM, Zakaria HM, Daoud MY, Al Wadaani H, Al Buali W, Al-Mohammed H, et al. Parasitic infestation in pediatric and adolescent appendicitis: a local experience. *Oman Med J* 2013;28(2):92-6.
6. Dorfman S, Cardozo J, Dorfman D, Del Villar A. The role of parasites in acute appendicitis of pediatric patients. *Invest Clin* 2003;44(4): 337-40.
7. Karatepe O, Adas G, Tukenmez M, Battal M, Altioek M, Karahan S. Parasitic infestation as cause of acute appendicitis. *G Chir* 2009; 30(10):426-8.