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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

**Intestinal obstruction due to
an ascariasis ball**
A summary of Thai reports

OBJECTIVE Obstruction in the gastrointestinal tract due to ascariasis is a rare clinical manifestation. Intestinal obstruction is extremely rare since the lumen of the intestine is wide. The condition called ascariasis ball is interesting and rarely reported in medical literature. This article reviews reports of this problem in Thailand, a tropical country. **METHOD** A literature review was made of reports on intestinal obstruction due to ascariasis ball in Thailand from a database of the published works. **RESULTS** The population most affected is the pediatric group and the common signs and symptoms of intestinal obstruction can be identified.

Intestinal helminthiasis constitutes an important group among gastrointestinal infections in the tropics. Several intestinal parasitoses are documented, with different clinical manifestations ranging from asymptomatic to severe disorders. Among the various kinds of intestinal helminthiasis, ascariasis is a common intestinal parasitic infestation.¹

Ascariasis is a pathogenic nematode infestation. The primary site of infection is the intestine, but the infection can also be seen in the other sites. Usually, the infection is asymptomatic and the diagnosis is made by the detection of the parasite's eggs in the feces during routine stool examination.¹

Obstruction in the gastrointestinal tract is a rare clinical manifestation of ascariasis.² The common site of obstruction is the biliary canal, due to its narrow lumen and its anatomical site connecting it to the intestine.³ However, obstruction in other sites may also be seen, more rarely. Intestinal obstruction is extremely rare since the lumen of the intestine is wide. The condition called ascariasis ball is interesting and has been rarely reported. A retrospective summary is made here on intestinal obstruction due to ascariasis ball reported in a tropical country, Thailand.

MATERIAL AND METHOD

A literature review was performed on reports of intestinal obstruction due to ascariasis ball in Thailand from a database

of the published works cited in the Index Medicus and Science Citation Index. The published works in all 256 local Thai journals that are not included in the international citation index were reviewed for reports of ascariasis ball in Thailand. The literature review focused on the years 1960 to 2010.

RESULTS

Only three relevant reports⁴⁻⁶ on a total of 11 patients with ascariasis ball were identified for further study. The age range of the subjects was 1-16 years (average 6.8±3.6 years), and there were 7 males and 4 females. The chief complaints included vomiting (all cases), abdominal pain (all cases), loss of appetite (8 cases) and fever (4 cases). The duration of illness before visiting to the physician ranged from 2 to 5 days.

The laboratory investigation in all cases showed polymorphonuclear leukocytosis and the acute abdomen X-ray series in all cases showed gastric dilatation. Since the most recent case was diagnosed before ultrasonography (US) was easily available, there was no US report in any case. All cases were finally diagnosed following the intraoperative findings. A worm ball could be seen in each case. The site of obstruction was the small intestine in 3 cases and the appendix in 8 cases. The number of worms forming the ball ranged from 9 to 1,984 worms. All the children had complete postoperative recovery, except for one fatal case, that of a 1 year-old boy with postoperative peritonitis.⁶

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Απόφραξη εντέρου
από μάζα ασκαρίδων:
Αναφορές από την Ταϊλάνδη

Περίληψη στο τέλος του άρθρου

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DISCUSSION

Although Thailand is a tropical country, and an endemic area for ascariasis, there have been only a few case reports on ascariasis ball causing intestinal obstruction. Basically, intestinal obstruction due to ascaris can be from a group of worms or from a ball packed with many worms.^{1,2} The second type is extremely rare but can induce intestinal gangrene.⁷

The condition is seen mainly in patients aged below 15 years. Focusing on the details of clinical presentation of the patients, the signs and symptoms of intestinal obstruction in all included reports can be indexed. The possible explanation might be due to the fact that the diameter of the intestine in the younger population is smaller than that of the adult and the obstruction can easily occur, especially in the appendix.

Focusing on the laboratory findings, polymorphonuclear leukocytosis was seen in all patients in this series, which may reflect the acute inflammation status of all cases. Although ascariasis would be expected to induce eosinophilia, it can also result in polymorphonuclear leukocytosis in cases with acute obstruction causing local inflammation.⁸ Focusing on imaging, the picture of gastric dilatation can confirm the nature of the intestinal obstruction.

Surgical removal appears to be the standard treatment. The sites of obstruction can be seen in either the small intestine or the appendix. There is no doubt that the obstruction is more common in the appendix due to its small diameter compared to the small intestine. The number of worms identified in the worm ball can be more than one thousand. The greater numbers of worms can be seen in the obstructions in the small intestine.

Concerning the prognosis, a good prognosis can be expected if there are no postoperative complications. The identified complication in the single fatality in this series was peritonitis due to rupture of the obstruction in a very young patient.⁶ This highlights the need for early diagnosis.

Although this complication has not been detected in Thailand for over 20 years, the ascariasis continues to be a public hygiene problem of Thailand, and new case can be expected at any time.

In conclusion, intestinal obstruction due to ascariasis ball is a very rare intestinal disorder. The population most affected is the pediatric group and the common signs and symptoms of intestinal obstruction can be identified. Surgical removal can result in good outcome.

ΠΕΡΙΛΗΨΗ

Απόφραξη εντέρου από μάζα ασκαρίδων: Αναφορές από την Ταϊλάνδη

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ΣΚΟΠΟΣ Η απόφραξη του εντέρου λόγω της ασκαρίασης αποτελεί σπάνια κλινική εκδήλωση. Η απόφραξη του εντέρου είναι αρκετά σπάνια, επειδή ο αυλός αυτού είναι αρκετά ευρύς. Η απόφραξη από μάζα ασκαρίδων είναι αρκετά ενδιαφέρουσα, ενώ αναφέρεται σπάνια στη βιβλιογραφία. Στο παρόν άρθρο γίνεται ανασκόπηση του συγκεκριμένου προβλήματος στην τροπική αυτή χώρα, την Ταϊλάνδη. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Έγινε ανασκόπηση της βιβλιογραφίας από μια βάση δεδομένων με δημοσιευμένες μελέτες σε περιπτώσεις εντερικής απόφραξης λόγω μάζας ασκαρίδων στην Ταϊλάνδη. **ΑΠΟΤΕΛΕΣΜΑΤΑ – ΣΥΜΠΕΡΑΣΜΑΤΑ** Η απόφραξη εμφανίζεται κυρίως στην παιδική ηλικία, ενώ υπάρχει ανάγκη προσδιορισμού των κυριότερων σημείων και συμπτωμάτων της εκδήλωσής της.

Λέξεις ευρητηρίου: Απόφραξη εντέρου, Ασκαρίαση, Μάζα

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