Unusual presentation of more common disease/injury

'Wormy'form appendix

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Correspondence to Mr Abraham Vincent Samuel Jesudoss, abepfdr@gmail.com**Summary**

Appendicitis and helminth infections are both common conditions in children. However, helminths (pinworms) infestation causing appendiceal luminal obstruction and presenting as appendicitis is uncommon.

BACKGROUND

This case report is important because of the unusual cause of appendicitis and clear laparoscopic intraoperative photograph of pinworms within the lumen of appendix.

CASE PRESENTATION

A 14-year-old Caucasian female presented with a week's history of intermittent right iliac fossa pain. The pain was dull in character with occasional spasmodic exacerbations and had worsened over the 2 days preceding admission. It was associated with nausea but no vomiting. There was no loss of appetite or weight, change in bowel habits or dysuria. There was no history of similar episodes and her menstrual period was 2 weeks prior to admission. The patient had a history of cystitis but no other medical problems.

On examination, the patient was afebrile and haemodynamically stable. On palpation of the abdomen, there was tenderness in the right iliac fossa but no rebound tenderness and Rovsing's sign was negative.

INVESTIGATIONS

The laboratory findings revealed normal white cell count and C reactive protein. The urine dip stick was negative for blood, leucocytes and nitrites. Urine B-HCG was negative.

DIFFERENTIAL DIAGNOSIS

Appendicitis, mid cycle pain – mittelschmerz, tubo-ovarian pathology, renal colic, constipation, Crohn's disease and urinary tract infection.

TREATMENT

The patients' symptoms persisted and in view the continuing right iliac fossa pain a decision was made to proceed to diagnostic laparoscopy. At operation, the uterus, ovaries and small bowel were normal. There was minimal fluid in pelvis but the tip of appendix was turgid with an injected serosa. An uncomplicated appendicectomy was performed using endoloops at the base of the appendix and during

Figure 1 Laparoscopic intraoperative image demonstrates pinworms within the appendix lumen.

resection of appendix, wriggling worms (*enterobius vermicularis* – figure 1) were seen to exude from the proximal and distal cut end of the appendix. Worms were removed from both ends and extensive lavage of the peritoneal cavity undertaken using suction/irrigation.

OUTCOME AND FOLLOW-UP

Postoperatively the patient and family were treated with mebendazole and on review in the outpatient clinic in 8 weeks' there was no recurrence of symptoms.

DISCUSSION

The prevalence of pinworms/threadworms (*Enterobius vermicularis*) is between five and 28% in children worldwide and most common in 5–10 years age group. It is known to cause stunting of growth and wasting in children.¹ Pinworms were first recognised in appendix specimens in 1724.² Pinworms were detected in 1.5–4.1%^{3–6} of appendectomy specimens and they are the most common helminth identified in the appendix.² Pinworm colonisation of the appendix can mimic symptoms of appendicitis but often histological inflammation is absent^{6 7}; however granulomas due to enterobius in the appendiceal wall have been reported.⁸ Enterobius colonisation is recognised as a cause for chronic right iliac fossa pain lasting up to 3 years with a mean duration of symptoms of 12.1 months in children.⁹ Women of reproductive age group with chronic pelvic pain have also been shown to occasionally have pinworms in the appendix and salpinx.^{10 11} During laparoscopic appendectomy, staggered division of appendix is recommended to decrease the chance of contamination of peritoneal cavity⁵ as escape of worms into the peritoneal cavity can cause infestation of other organs.¹¹ Postoperative treatment with antihelminthics for the patient and the family is vital to eliminate asymptomatic carriers. A single dose of mebendazole 100 mgs and a repeat dose 2 weeks' later is most commonly advised however, recipients should be warned of abdominal pain and diarrhoea as potential side effects. In addition, advice should be given regarding meticulous attention to personal hygiene to prevent recurrent infections.

Learning points

- ▶ Pinworms in the appendix may mimic symptoms of appendicitis.
- ▶ It occurs because of luminal obstruction of the appendix.
- ▶ During appendectomy, meticulous removal of the worms is mandatory to prevent peritoneal contamination.

Competing interests None.

Patient consent Obtained.

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