A Potential Pitfall in Appendix: An Interesting Case

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ABSTRACT

Food material including seeds can be a very common presentation in the appendicectomy specimens. On histological examination they can sometimes be mistaken as worms or their ova. Here we discuss the differentials and differentiating features of common parasites, ova and plant material/seeds found in appendix specimens. A female presented in the emergency unit with abdominal pain, whose diagnostic laproscopy with appendicectomy was done and histology of the appendix showed food material with plant cell matrix along with moderate acute inflammation in the mucosa. Therefore these should be clearly identified in histology by looking at their morphology which can help us in diagnosing and managing the patient appropriately.

Keywords: Appendix, histology, parasites

INTRODUCTION

Food material including seeds can be a very common presentation in the appendicectomy specimens in histological examination which sometimes can be mistaken as worms or their ova by the unwary. Therefore these should be clearly identified in histology so that patient can be appropriately managed.

CASE REPORT

A 26 years old lady presented at Accident and Emergency unit of our hospital with a 3 weeks history of lower abdominal pain and stabbing pain in right iliac more recently. There was one episode of diarrhoea. Her last menstrual period was 2 months ago. Urine dipstick was negative for pregnancy. Ultrasound scan revealed no concerning findings but appendix was not visualized. Clinically impression was of acute appendicitis. Therefore, diagnostic laparoscopy with appendicectomy was performed and patient was discharged.

Gross examination of specimen consisted of an appendix measuring 78mm long and 6mm in diameter. The serosa was smooth and shiny. The meso-appendix measured 35x10mm. No serosal exudate or perforation was seen.

Histology of the appendix showed food material in the lumen with plant cell matrix. There was moderate acute inflammation in the mucosa but there was no evidence of transmural acute inflammation, eosinophilia, granulomas, parasites, dysplasia or malignancy.

DISCUSSION

In the post operative appendix specimens, we can get plant / food material which can be confused with worm infestation. However with experience and knowledge about the correct morphology of these, one can reach a right conclusion.

Enterobius vermicularis and *Taenia* are frequently found in the appendicectomy specimens.[1-3] *Enterobius vermicularis* is also known as pinworm due to its long pointed tail that resembles a straight pin.[4] The adult worm appears as a white, small and delicate nematode measuring (1-13 x 0.3 mm). It has a cylindrical body. It has a wing like expansion (alae) of the body wall at the anterior end, distension of the body due to the large number of eggs in the uteri and a pointed tail.[5]

Taenia is usually over 2 – 12 m in length. The worm is divided into an anterior scolex, a short neck and a long body called the strobila. The worm has four strong suckers to anchor it in the intestine.

Ascaris lumbricoides are called small intestinal

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roundworms. They are 20-30 cm in length and rarely can be found in appendix also. They are slender, creamy white with a pinkish cast and cuticle with slender striations.

A few other types of worms such as Schistosoma can also be found in appendix.[6]

However despite differences in individual morphological appearance of these adult worms, all have outer epidermis with muscle layer beneath it and lumen of intestine within the body cavity. Female worms have round structures containing eggs which can be sometimes mistaken with plant material but the above mentioned features can help to differentiate these worms from the plant material / seeds.

Mature seeds have outer layer called seed coat which can be of variable thickness. The layer beneath is sheath called integument and the inner most structure is ovule.[7] Plant material will have plant cell wall matrix, which helps clinching the right diagnosis. In addition, these plant materials have pith which is a distinguishing features from ovum of parasites. Similarly the surrounding tissue reaction like increased eosinophilia and granulomas found with ova and parasites can be helpful in differentiating from the plant / food material.[8] However, sometimes worms, ova as well as impacted seeds can cause acute appendicitis due to over-growth of bacteria in the trapped food material in the appendiceal lumen.[9, 10]

Ovum of parasites sometimes can mimic plant or seed material but they have transparent outer membranes and many times we can see the spinous processes. These wouldn't have plant cell wall matrix.

To conclude, food material including seeds can be found in appendix which can be misdiagnosed as worms or their ova by the unwary. Carefully looking at their morphology will guide us at appropriate diagnosis and management.

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