Ovarian enterobius presenting as pelvic inflammatory disease: A rare case

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Abstract
Enterobius vermicularis is one of the most prevalent human nematode worldwide. Besides intestine extra intestinal sites especially the female genital tract may be involved. We present herein a case of infestation of the ovary by Enterobius in a lady aged 40 years.

Keywords: Ovary, Enterobiusvermicularis.

Introduction
Pelvic inflammatory disease refers to inflammation of the endometrium, fallopian tubes, pelvic peritoneum, and adjacent structures. Most of the cases are caused by Chlamydia trachomatis.¹ Enterobius vermicularis (EV) is the most prevalent human nematode worldwide. It is an intestinal parasite that may involve extraintestinal sites including the female genital tract. Although it has a low pathogenicity, complications such as infertility or peritonitis may occur.²

Case Report
A 40 years old female presented to the surgery department following complaints of pain in abdomen and vomiting. As stated by the patient she was asymptomatic 2 days back when she developed pain in abdomen. Initially, it started in the umbilical area and then involved the entire abdomen. She gave a history of passing loose stools since 2 days and now absolute constipation. There has been no history of diabetes, hypertension or drug allergy. Her pulse was 96/min and blood pressure 100/70 mmHg. Investigations revealed low Calcium levels and hypokalaemia. Hb was 9.1g%, TLC 12900 cells/mm³, with 90% Polymorphs and ESR (Wintrobe) 35 mm in 1st Hour. Ultrasound abdomen suggested septate pelvic cavity collection measuring 8.5x4.5 cm.

On examination, her abdomen was tender. She had a pale appearance. Exploratory laparotomy revealed appendicular perforation with peritonitis and left ovarian cyst. The entire excised tissue was sent for histopathological examination. Sections showed ovarian tissue including ovarian stoma and corpus albicans. In addition at one place cut sections of the parasite identified as Enterobius vermicularis were present. Post-operative follow-up was uneventful.

Fig. 1: Microphotograph showing ovarian tissue with numerous Enterobiusvermicularis worms. (H&E x 100)

Fig. 2: Microphotograph showing details of parasite (H&E x 100)
Discussion
EV infections are more common in children aged 5 to 10 but can occur in any age groups and all socio-economic classes. Despite this high prevalence, enterobiasis is not a fatal disease. Significant morbidity may occur as a result of ectopic infections, especially in females. It spreads by faeco-oral route and is associated with overcrowding, temperate and tropical climates, and poor sanitation. EV spends 2–4 weeks in the GIT of humans. The gastrointestinal secretions digest its outer coating made of protein, thus liberating the larvae free in the duodenum. Reproduction occurs in the intestine. At night the gravid female migrates to the anus, where they deposit large number of eggs that quickly embryonate and remain viable for about 3 weeks. These eggs may then infect the same or a new susceptible host through anal–oral transmission, or via “retrograde infection”. The eggs attach under fingernails and in clothing, fur of pets, bed sheets, dust and other fomites. Humans are the only host of the pinworm.

The most common presentation is pruritis in the perianal and perineal region leading to nocturnal enuresis, irritation and lack of sleep. Pruritis is due to allergic reaction and mechanical irritation. Among tissues the parasite most commonly invades the appendix followed by the female genital organs especially by migrating from rectum to vagina and ascending via the ureterine cavity. The parasite can even penetrate the intact tissues. The worms migrate into the vagina invading uterus, uterine tube, ovary, and even the peritoneum. In patients with intrauterine pinworm contamination the immune system responds by producing granulation tissue around the pinworms. Fallopian tube infiltration, tubo-ovarian abscess, or granulomatata of the ovary and pelvic peritoneum. Two cases.

EV predominantly affects the GIT but however, other sites such as the female genital tract may also be involved. Only 6 cases of E. vermicularis involving the female genital tract have been reported and ours is the 7th such case. The pathogenicity of EV involving the female genital tract is low except in severe infection or a high worm load. Patients may also present with leucocytosis or eosinophilia.

EV is readily killed with antiparasitic therapy. The treatment of choice for EV infestation is Mebendazole or Pyrantelpamoate with Albendazole as an alternative treatment. The dosage is 400mg once repeated in 2weeks. Reinfestation is common due to the continuous spread of eggs or larvae that are spared by the drugs. Repeat dose of the drug may increase the effect of therapy. Close relatives and family members should also be treated similarly so as to prevent the spread and also reinfection. Careful hand washing and environmental decontamination have an important role in reducing transmission.

Conclusion
EV predominantly affects the GIT but however, other sites such as the female genital tract may also be involved. Only 6 cases of E. vermicularis involving the female genital tract have been reported and ours is the 7th such case. The pathogenicity of EV involving the female genital tract is low but cases presenting with infertility or peritonitis are available. So a careful search for the parasite is important in preventing morbidity.

Conflict of Interest: None.

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