

Enterobius vermicularis Salpingitis Seen in the Setting of Ectopic Pregnancy in a Malaysian Patient

Romano Ngui,^a Sarala Ravindran,^b Diana Bee Lan Ong,^b Tak Kuan Chow,^b Kah Pin Low,^c Zaidi Syeda Nureena,^c Yamuna Rajoo,^a Yuee Teng Chin,^a Amirah Amir,^a Arine Fadzlan Ahmad,^a Yvonne Ai Lian Lim,^a Rohela Mahmud^a

Department of Parasitology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia^a; Department of Pathology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia^b; Department of Obstetrics and Gynecology, University Malaya Medical Centre, Kuala Lumpur, Malaysia^c

We report a rare and unusual case of invasive *Enterobius vermicularis* infection in a fallopian tube. The patient was a 23-year-old Malaysian woman who presented with suprapubic pain and vaginal bleeding. A clinical diagnosis of ruptured right ovarian ectopic pregnancy was made. She underwent a laparotomy with a right salpingo-oophorectomy. Histopathological examination of the right fallopian tube showed eggs and adult remnants of *E. vermicularis*, and the results were confirmed using PCR and DNA sequencing.

CASE REPORT

On 22 January 2014, a 23-year-old woman, who was in her second pregnancy and at 8 weeks of gestation, presented as an outpatient to the Emergency Department (ED) University of Malaya Medical Centre (UMMC), Kuala Lumpur, Malaysia. She was referred by a private general practitioner after complaining of vaginal bleeding for 3 days with small amount of spotting and staining on her undergarment associated with suprapubic pain for a day. The pain was described as sharp pricking, nonradiating, and progressively increasing in severity. She did not have any vaginal discharge or fever. The result of a urine pregnancy test carried out at the private clinic was positive. When she missed her menses in December 2013, no test was done to confirm pregnancy. Bowel and urinary habits were normal. She did not have any medical illnesses or previous surgeries. No known allergies were noted. She had a full-term vaginal delivery in 2009. She attained menarche at the age of 12 years and has a regular menstrual cycle and is free of menorrhagia, dysmenorrhea, dyspareunia, and postcoital bleeding. She is on a natural method of contraception, and a cervical smear test had never been done before.

On physical examination, she appeared pale, with early signs of hypovolemia as evidenced by tachycardia with pulse rate of 110 to 120 beats per min and blood pressure ranging between 90 to 94 and 60 to 70 mm Hg. Fluid resuscitation was immediately started in the emergency department. Her vital signs were monitored continuously. Cardiorespiratory examination revealed no abnormalities. Her abdomen was mildly distended. There was presence of tenderness at the lower abdomen with guarding. Neither an abdominal scar nor organomegaly was noted. Vaginal examination revealed a normal vulvovaginal surface, and her cervix was tubular. The cervical excitation result was positive, with fullness in the Pouch of Douglas. Adnexal tenderness was elicited bilaterally.

Transabdominal pelvic sonography revealed an empty uterus with a right irregular adnexal mass measuring 9 mm and a moderate level of free fluid that was 50 mm deep. Blood investigations revealed anemia, with hemoglobin at 6.7 g/dl and with a normal white blood cell count and platelet level. Preoperative diagnosis of a ruptured right ectopic pregnancy with hypovolemia was made. Informed consent for a laparotomy was provided by both the patient and her husband after they were counseled with respect to the working diagnosis and the intended procedure. She under-

went laparotomy with right salpingo-oophorectomy on the same day. The diagnosis of a ruptured right ovarian ectopic pregnancy was made. She was transfused with 4 U of packed cells. She had an uneventful postoperative recovery and was discharged on the second postoperative day (24 January 2014), with paracetamol prescribed as a pain reliever. She was given a follow-up appointment in the Gynaecology Outpatient Clinic for a date 6 weeks later.

The resected specimens were submitted to the Department of Pathology, Faculty of Medicine, University of Malaya, for histopathological examination. Reports on macroscopic findings described a distended tubular structure measuring 60 mm in length. A ruptured hemorrhagic cystic cavity measuring 40 mm by 25 mm by 20 mm was present. Microscopic findings revealed a fibrotic nodule attached to the wall of the right fallopian tube composed of hyalinized stroma containing rounded structures reminiscent of eggs and adult remnants of pinworms (*Enterobius vermicularis*) (Fig. 1). The nodule was attached to the tubule wall and just impinged on the fallopian tube. There was no obstruction of the tubule lumen noted. Chronic inflammatory infiltrates admixed with histiocytes and a granulomatous reaction showing multinucleated giant cells of a foreign-body type were observed in focal areas within the nodule (Fig. 2). Focal dystrophic calcification was present. Decidual tissue (i.e., suggestive of products of conception) that adhered to the wall of the fallopian tube was observed in focal areas. Fusion of plicae of mucosal folds was seen. The hemorrhagic cystic cavity showed a paratubal cyst.

Paraffin-embedded tissue sections were sent for further species-specific confirmation to the Department of Parasitology, Faculty of Medicine, University of Malaya. The specimens were subjected to a nested PCR targeting the 5-subunit rRNA (5S rRNA) spacer region according to a protocol described previously (1).

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Editor: P. H. Gilligan

Address correspondence to Romano Ngui, romano@um.edu.my/M, or Rohela Mahmud, rohela@umm.edu.my.

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