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CASE REPORT

Ovarian Follicle: Twirling Microfilaria's New Abode

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Case Report

A 26-year-old female, married and having two children resident of Lucknow, Uttar Pradesh, presented with chronic pelvic pain and polymenorrhoea since 2 months. Clinical examination revealed right-sided pelvic tenderness. On per vaginal examination, uterus was normal in size with right forniceal tenderness. Patient was advised ultrasound whole abdomen for which she was referred to our department.

Diagnosis

Ultrasound whole abdomen revealed bilateral bulky ovaries with 12–15 follicles measuring 4–5 mm arranged peripherally. Right ovary measured 42 × 30 × 28 mm (vol 19 cc) and left ovary measured 44 × 27 × 23 mm (vol 15 cc). Twirling motion was noted within one of the follicles in the right ovary.

Transvaginal ultrasonography was performed for confirmation. Transvaginal ultrasonography revealed bilateral bulky ovaries with multiple tiny follicles of varying sizes (Fig. 1). One of the follicles in the right ovary had a few echogenic foci within showing twirling movement on dynamic greyscale imaging (Video 1). Doppler signals that were non-rhythmic, non-pulsatile, and rapidly changed in size and position (Video 2) were seen on colour Doppler imaging (Fig. 2). Spectral Doppler trace showed the characteristic pattern of irregular worm (filarial dance) leading to provisional diagnosis of filarial oophritis.

Blood test revealed Hb—12.9 g, total count—6400/cm and on differential count—eosinophil 19%. Prolactin level was increased 44.24 ng/ml.

Confirmation of Diagnosis

A finger prick test was performed at midnight, and thick blood smear with Giemsa staining showed microfilariae in haemorrhagic background suggesting the diagnosis of ovarian filariasis (Fig. 3). An immunochromatographic card test for filariasis detected circulating filarial antigens.

A combination of radiopathological investigations revealing circulating filarial antigen and filarial dance sign in ovarian follicles led us to the confirmation of diagnosis.

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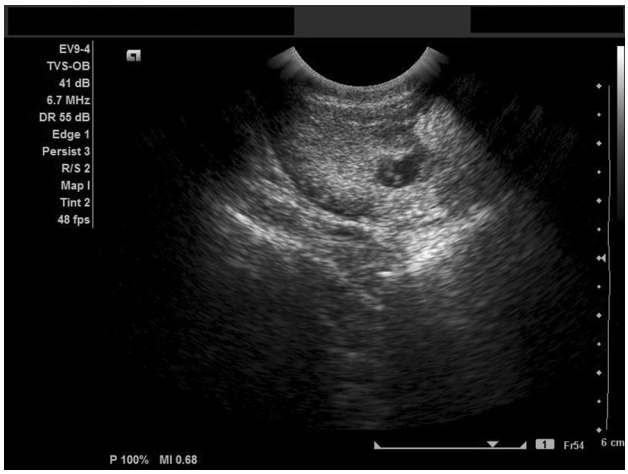

Fig. 1 Right ovarian follicle with microfilariae

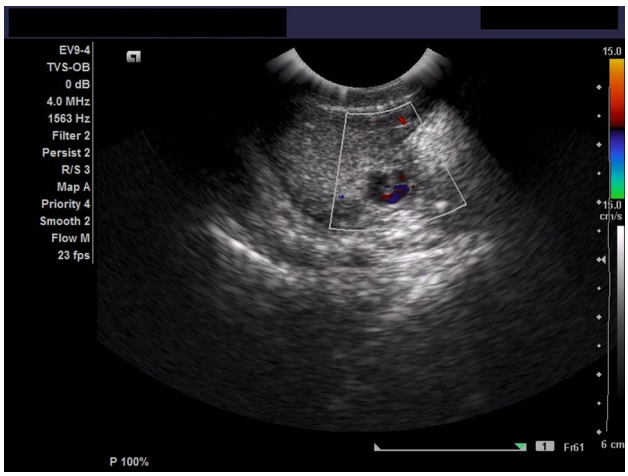

Fig. 2 Colour Doppler imaging

Fig. 3 Giemsa-stained blood slide showing microfilariae

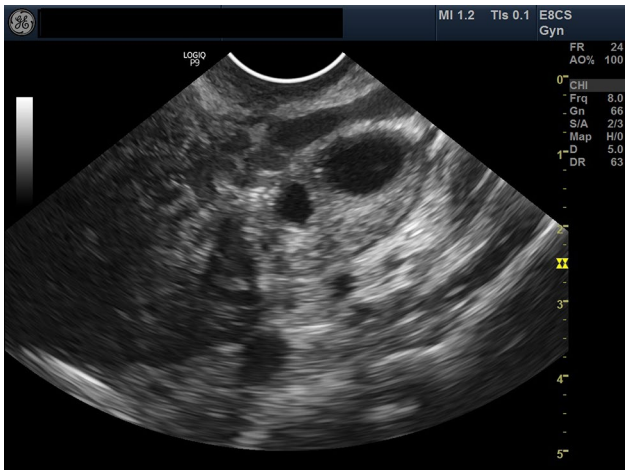

Fig. 4 Right ovarian follicle post-treatment

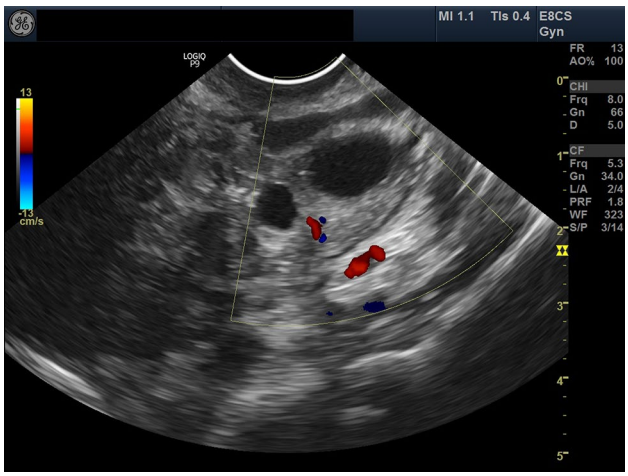

Fig. 5 Colour Doppler imaging post-treatment

Treatment

Surgery and medical therapy primarily help in the treatment. In our case, the patient was put on a regimen of diethylcarbamazine (DEC) 100 mg thrice daily for 21 days. This regimen is followed for 3 weeks with a gap of 1 week in between. DEC is very effective in killing adult worms as well as is microfilaricidal [1].

Outcome

After the course of DEC was completed, we repeated transvaginal ultrasonography. Ultrasonography is very useful in the follow-up period to document the response of worms to the drug. A complete absence of worm movements on follow-up examination was taken as a positive response [2].

In our patient, the filarial dance sign was absent on repeat transvaginal ultrasonography (Fig. 4) as well as colour Doppler imaging (Fig. 5; Video 3).

Discussion

Wuchereria bancrofti causes lymphatic filariasis affecting large population in endemic areas. The socio-economic implications of this disease are significant as it causes severe disability. It is recognized as the second most disabling disease after malaria among the diseases transmitted by mosquitoes. There are eight species of filarial worms that can infect human. Out of them, four are responsible for dramatic filarial infection—(1) *W. bancrofti*, (2) *Brugia malayi*, (3) *Onchocerca volvulus*, and (4) *Loa loa*: former two causing lymphatic filariasis and latter two leading to non-lymphatic filariasis. Lymphatic filariasis has a predilection for lymphatics in the lower limbs and genital tract [3]. However, ovarian localization of lymphatic filariasis is rare, and only a few cases have been reported in the literature [4, 5]. In a case report by Sane and Patel, adult filarial worms were reported in a specimen of cystic teratoma [6]. In a case report by Sethi et al. [7], filarial worm was found in ovary and mesosalpinx and both patients presented with complaints related to gynaecological problems and not filariasis. The ovarian follicular involvement presented in this case report is rarer. Moreover, the literature shows that the reported cases have been based on histopathological reports of patients undergoing hysterectomy and oophorectomy, whereas we present a case which has been diagnosed on transvaginal ultrasonography showing a real-time filarial dance sign in follicular fluid. The illustrated case is the first case report to the best of our knowledge wherein microfilariae are present in ovarian follicular fluid demonstrating filarial dance.

Conclusion

The purpose of this case report is to emphasize that although more common in males even in females the diagnosis of filariasis should be considered, as filariasis can have unusual presentations and sometimes may also masquerade as pelvic mass. This could aid in early and correct diagnosis.

Compliance with Ethical Standards

Conflict of interest Dr. Sachin Khanduri, Dr. Namrata Nigam, Dr. Mazhar Khan, Dr. Anvisha Shukla, Dr. Ekta Tyagi, Dr. Tariq Ahmad Imam and Dr. Shobha Khanduri declare that they have no conflict of interest.

Ethical Standard All procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008(5).

Human and Animal Rights This article does not contain any studies with human or animal subjects.

Informed Consent Informed consent was obtained from the patient for being included in the study.

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