



## Case report

## Primary hydatid cyst of the fallopian tube

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## ARTICLE INFO

## Article history:

Received 28 April 2020

Received in revised form 1 May 2020

Accepted 1 May 2020

## Keywords:

Hydatid disease

Fallopian tube

Echinococcus

Hydatid cyst

Adnexal cyst

Pelvis

Salpingectomy

## ABSTRACT

Hydatid disease is endemic in Tunisia. The involvement of the female genital tract is uncommon, and the occurrence in the fallopian tube is exceptional. We present a case of a 42-year-old woman who had complained of a 4-month history of lower abdominal pain. The abdominal ultrasonography and CT scan showed a multiloculated cystic lesion in the left adnexa. The exploratory laparotomy found a cystic mass developing in the left fallopian tube. Left salpingectomy was performed. The pathological examination confirmed the diagnosis of hydatid cyst disease. No recurrence was detected at the 2-year follow-up. Tubal hydatid cyst is an extremely rare condition that should be considered in the differential diagnosis of any cystic lesion in patients from endemic areas.

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## Introduction

Hydatid disease is an anthroponosis caused by larval stage of *Echinococcus granulosus* [1]. This parasitic infection occurs in many areas of the world, but it is especially endemic in the Mediterranean countries, such as Tunisia [2]. The diagnosis is challenging in non-endemic countries. Clinical history, serologic tests, and imaging techniques such as ultrasonography and computed tomography can be useful in making a correct preoperative diagnosis [3]. The disease can develop in any part of the body. The most frequently involved organs are liver (75 %) and lung (15 %) [4]. The involvement of the female genital tract is uncommon, and the occurrence in the fallopian tube is extremely rare and may be difficult to diagnose [5]. In reproductive organs, the involvement is secondary in most cases. We report a rare case of a primary tubal infection.

## Case presentation

A 42-year-old gravida two para two, woman, without previous medical history, presented with a 4-month history of lower abdominal pain. Physical examination did not reveal any abnormal findings. Blood investigations were within normal ranges. The

abdominal ultrasonography showed a multiloculated cystic lesion of 32 × 35 mm in the left adnexa. Abdominopelvic computed tomography scan was performed for further investigation and revealed a 3 cm cystic mass with thin septa originating from the left adnexal structures. Other abdominal organs such as liver, spleen, and kidneys were normal, and chest x-ray did not show any cystic lesion. Hydatid serology, using the indirect hemagglutination test, was positive. Thus, the diagnosis of primary hydatid cyst of the left adnexa was made.

An exploratory laparotomy through a midline incision was performed. Exploration of the abdominal cavity found a cystic mass developing in the left fallopian tube, while ovaries, uterus, and right fallopian tube were normal. Left salpingectomy was performed. The surgical field was isolated with surgical sponges soaked with hypertonic saline to control any intraoperative spillage. The longitudinal section of the fallopian tube showed white lining typical for a germinative layer of an echinococcal cyst (Figs. 1 and 2). Microscopic examination confirmed the diagnosis of hydatid cyst disease (Figs. 3 and 4). The postoperative course was uneventful, and the patient was discharged on the 5th postoperative day. No recurrence was detected at the 2-year follow-up.

## Discussion

Hydatid disease is an endemic infection in the Mediterranean region, and Tunisia is one of the most affected countries (12.6 per 100,000 inhabitants [6]). This disease is a major public health problem in our country. The involvement of pelvic organs is a rare

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Fig. 1. Left salpingectomy specimen.

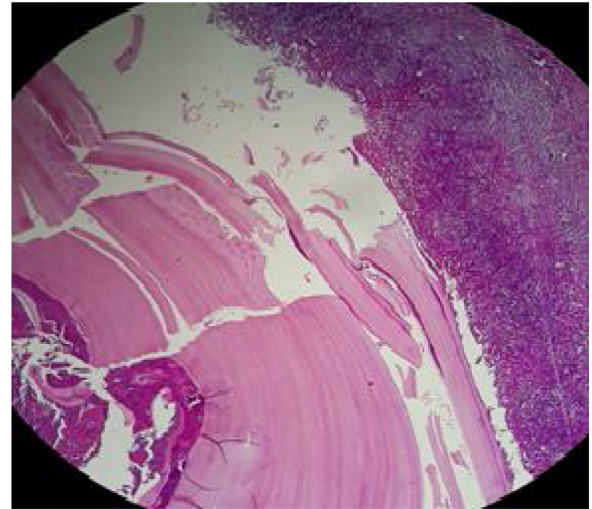


Fig. 4. hydatid membrane within an inflammatory and granulomatous tubal wall (HE ×10).



Fig. 2. longitudinal section of the fallopian tube showing white hydatid membrane.

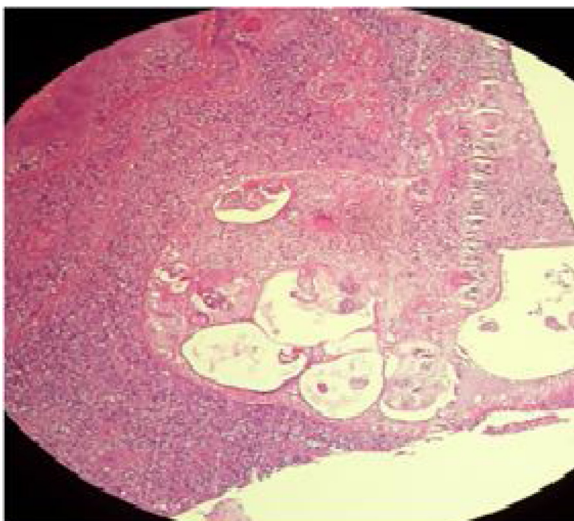


Fig. 3. Scolex with high magnification HE ×40.

condition with a reported frequency of 0.3 %–4.27 % [7]. Ovaries and uterus are the most commonly involved organs in the pelvis; however, the hydatid cyst of the fallopian tube remains exceptional. (less than 30 cases are reported) [5]. Pelvic hydatid disease is almost always secondary to the accidental rupture of the intra-abdominal cyst [8]. Only a few cases of primary involvement of the female pelvic organs are reported. To the best of our knowledge, we report herein the third case of primary hydatid cyst of the fallopian tube, in English literature.

Tubal involvement does not have mostly specific symptoms [5]. Although It is frequently asymptomatic, pelvic pain and abdominal mass can be reported. In our case, the patient presented with a four-month history of lower abdominal pain. In non-endemic areas, pre-operative diagnosis of primary pelvic hydatidosis is difficult. Imaging investigations play a major role in the detection of pelvic hydatid cysts. Ultrasonography constitutes the method of choice, having a low cost and a high sensitivity [9]. Furthermore, it is still challenging to differentiate the hydatid cyst of the fallopian tube from other cystic adnexal masses such as salpingitis, ectopic gestational sac, exophytic ovarian cysts, and para ovarian cysts. Both CT scan and magnetic resonance imaging can also be helpful [10]. In our case, the diagnosis was made based on the sonographic findings and scan data and by considering epidemiologic factors and prevalence of echinococcosis in our country. Surgery is the optimal treatment modality of a pelvic hydatid cyst, consisting of total resection of the cyst [6]. Further contamination during surgery should be avoided, using fields soaked with scolécid solution (hypertonic serum or hydrogen peroxide) in order to prevent recurrence and anaphylaxis [11].

After surgery, a recurrence rate of 2 % has been reported [12]; that is why some authors recommend and adjuvant chemotherapy with albendazole [13]. The medical treatment would be effective in patients with multiple localizations or if incomplete resection was performed [14]. In our case, albendazole has been no used since the hydatid cyst of the fallopian tube was isolated, and total resection was performed without spillage of the cystic content.

## Conclusion

Tubal hydatid cyst is an extremely rare condition that should be considered in the differential diagnosis of any cystic lesion in patients from endemic areas.

## Ethics and patient consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request. Institutional approval was not required.

## CRedit authorship contribution statement

**Imen Ben Ismail:** Conceptualization, Data curation, Writing - original draft. **Hakim Zenaïdi:** Investigation, Supervision. **Saber Rebbi:** Writing - review & editing. **Ayoub Zoghlami:** Validation.

## Declaration of Competing Interest

There are no conflicts of interest to declare.

## Acknowledgments

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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