Pelvic hydatid cyst presentation as an ovarian torsion: A rare case report

Solmaz Seifi¹, Atefeh Shadman¹, Afrouz Mardi² and Eslam Moradi Asl²

Abstract

Hydatid cyst is a zoonotic parasitic disease with a global prevalence, especially in the Mediterranean region. We encountered a 37-year-old woman referred to the emergency department complaining of severe abdominal pain and spotting. After the emergency ultrasound, she underwent laparotomy with the diagnosis of missed ovarian torsion and was diagnosed as a hydatid cyst. We were prompted to report this case regarding the rarity of this cyst and its presentation.

Keywords

Pelvic, hydatid cyst, Iran

Date received: 28 November 2021; accepted: 18 October 2022

Introduction

Hydatid cyst is most frequently caused by Echinococcus granulosus.¹ This zoonotic parasitic disease has spread globally, especially in the Mediterranean region, including Iran.¹ The World Health Organization (WHO) has described this cyst as a neglected disease.² Hydatid cysts are rarely seen in the female reproductive system.³ In 80% of involved genital tracts, the ovary and uterus are the most commonly affected organs.⁴ In this regard, pelvic hydatid cysts are usually caused by the rupture of cysts in other areas of the abdomen, primarily the liver.⁵ Most patients are asymptomatic, but as the cyst grows in the pelvic cavity, various symptoms occur due to the compressive effect of the cyst on nearby organs.⁶ This article reports a rare pelvic hydatid cyst mimicking an ovarian torsion. This report aims to add to the literature a unique description of a rare pelvic hydatid cyst, which could be mistakenly diagnosed and treated.

Case report

Our case report is a 37-year-old woman referred to the emergency department complaining of severe abdominal pain and spotting from 2 months ago in Parsaabad, Ardabil. She reported generalized pain in the entire abdomen without obvious tenderness or rebound tenderness with no nausea, organomegaly, or a history of gynecological problems. The vital signs of the patient were stable. In a transvaginal ultrasound, the right ovary with dimensions of 78×45×33 mm and a volume of 125 cc (larger than normal) was reported with heterogeneous echo. However, the left ovary was normal. Doppler showed no arterial or venous vascularity in the right ovary. Ultrasound images suggested the probability of ovarian torsion. Abdominal and pelvic ultrasonography reported a spherical hypoechoic lesion with calcification of 30×30 mm in segment VII, right lobe of the liver, suggesting a silent hydatid cyst. Several calcified granulomas with a maximum diameter of 5 mm were evident in the right lobe of the liver.

The patient had a history of spotting from 2 months ago and a history of hydatid cyst surgery 6 years ago. Due to these characteristics and severe abdominal pain, she was sent to the center of the province (Alavi Hospital in Ardabil). After the emergency ultrasound, she underwent laparotomy with the diagnosis of missed ovarian torsion. Laparotomy revealed a 9×8 cm² mass in the posterior cul-de-sac area behind the uterus, which had a soft consistency on examination (Figure 1). Therefore, oncology and emergency surgery consultation was performed. The vesicles appeared by cutting on the mass, and the hydatid cyst was

¹Ardabil University of Medical Sciences, Ardabil, Iran
²Department of Public Health, School of Health, Ardabil University of Medical Science, Ardabil, Iran

Corresponding Author:
Afrouz Mardi, Department of Public Health, School of Health, Ardabil University of Medical Science, Ardabil, 85991-56189, Iran.
Email: mardi1151@gmail.com
considered according to the appearance of the mass during surgery and the patient’s history. The cyst was drained, its wall was completely removed, and the sample was sent to the pathology.

The pathology report indicated that:

(a) Sections showed cyst wall structures with a marked fibrotic layer in the inner parts and surrounded by smooth muscle fibers in the outer layer in some areas. Chronic inflammatory cells were infiltrated mostly in the inner parts of the cyst and were associated with foreign body type reactions.

(b) Microscopic examination showed a chitin-like, acellular, laminated cyst wall associated with necrotic material. The lesion staging was stage IIb (Figure 2).

Discussion

Hydatid disease is commonly caused by *Echinococcus granulosus* and is endemic in several countries, including Iran. The main host and most common source of this infection are dogs, which can incidentally transmit the parasite to humans.

The patient was a young woman with no underlying disease. The only known risk factor for this patient was living in rural areas, having contact with dogs, and having a history of hydatid cyst surgery 6 years ago. Symptoms are usually absent. Also, in many cases, the infection is accidentally detected on imaging for other reasons. Symptoms will develop in a confined space due to the compressive effect of the growing cyst.

Tarafdar et al. reported a case of a hydatid cyst that underwent laparotomy with malignant ultrasound features.
but was diagnosed as a hydatid cyst. However, unlike our case, it was a primary cyst as no other lesions were detected at the time.

Mohammed et al.\textsuperscript{10} reported an 18-year-old woman who had complained of abdominal pain and frequent urination in the past 3 months. Abdominal ultrasound showed left adnexal cystic lesions, while laparoscopy showed left ovarian hydatid cyst.

The literature review shows only a few cases of primary involvement of female pelvic organs. Such cases are commonly diagnosed as para-ovarian cysts and are most often diagnosed during surgery.\textsuperscript{11}

\textbf{Limitations}

The limitation of this study is that the imaging and laparoscopy facilities were not available in the Governmental hospital, so pathology findings were the gold standard to identify the staging of the lesion in this case (stage IIb).

\textbf{Conclusion}

Despite technical advances in the surgical and medical treatment of hydatid cysts, diagnosing and treating this disease still poses many challenges for physicians. Besides, there is no defined consensus for patient follow-up. In this regard, a high sensitivity is needed to diagnose, especially if there is a cystic lesion anywhere on the body.

\textbf{Acknowledgements}

The authors acknowledge the patient and Alavi Hospital personnel who collaborated on this study.

\textbf{Declaration of conflicting interests}

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

\textbf{Funding}

The author(s) received no financial support for the research, authorship, and/or publication of this article.

\textbf{Ethics approval}

The Ethics Committee of Ardabil University of Medical Sciences approved the study (IR.ARUMS.REC.1401.063).

\textbf{Informed consent}

Written informed consent was obtained from the patient(s) for their anonymized information to be published in this article.

\textbf{ORCID iD}

Eslam Moradi asl \textsuperscript{12} https://orcid.org/0000-0003-3999-6039

\textbf{References}

1. Deplazes P, Rinaldi L, Alvarez Rojas CA, et al. Global distribution of alveolar and cystic echinococcosis. \textit{Adv Parasitol} 2017; 95: 315–493.
2. Brunetti E, Garcia HH, Junghanss T, et al. Cystic echinococcosis: chronic, complex, and still neglected. \textit{Plos Negl Trop Dis} 2011; 5(7): e1146.
3. Katsamagkas T, Tsakiridis I, Evaggelinos D, et al. Primary ovarian hydatid cyst in a postmenopausal woman: a rare case report. \textit{Int J Surg Case Rep} 2020; 68: 221–223.
4. Diaz-Recasén J, Garcia-Enguixanos A, Munoz I, de la Cuesta RSJO, et al. Ultrasonographic appearance of an echinococcus ovarian cyst. \textit{Obstet Gynecol} 1998; 91(5 Pt. 2): 841–842.
5. Tampakoudis P, Assimakopoulos E, Zafrikas M, et al. Pelvic echinococcus mimicking multicystic ovary. \textit{Ultrasound Obstet Gynecol} 2003; 22(2): 196–198.
6. Sing P, Mushtaq D, Verma N, et al. Pelvic hydatidosis mimicking a malignant multicystic ovarian tumor. \textit{Korean J Parasitol} 2010; 48(3): 263–265.
7. Basit GY, Muraveji Q and Nazari FA. Primary hydatid disease of chest wall mimicking chest wall mass-case report. \textit{Int J Surg Case Rep} 2021; 80: 105602.
8. Ray S and Gangopadhyay M. Hydatid cyst of ovary-a rare entity. \textit{J Turk Ger Gynecol Assoc} 2010; 11(1): 63–64.
9. Taranfar A, Irandoost E, Jafari S, et al. Pelvic hydatid cyst: three cases with suspected adnexal masses. \textit{Int J Fertil Steril} 2022; 16(1): 60–63.
10. Mohammed AA and Arif SH. Hydatid cyst of the ovary–a very rare type of cystic ovarian lesion: a case report. \textit{Case Rep Womens Health} 2021; 31: e00330.
11. Nazari Z and Torabizadeh J. Primary hydatid cyst of the fallopian tube: a case report. \textit{Caspian J Intern Med} 2014; 5(3): 179–181.