



Extrahepatic Intra-abdominal Hydatid Cyst Detected Incidentally After Trauma: A Case Report

Travma Sonrası İnsidental Tespit Edilen Ekstrahepatik İntraabdominal Kist Hidatik: Olgu Sunumu

Mehmet Metin¹ | Hande Kahraman² | Nurcan Coşkun¹ | Hülya İpek¹ | Gül Doğan¹ |
Çağatay Evrim Afşarlar¹

¹Hitit University Faculty of Medicine, Department of Pediatric Surgery, Çorum, Türkiye.

²Hitit University Faculty of Medicine, Department of Medical Microbiology, Çorum, Türkiye.

ORCID ID: MM: 0000-0002-3093-5435 **HK:** 0000-0002-2732-4887 **NC:** 0000-0002-8657-7884 **HI:** 0000-0002-3496-8939
GD: 0000-0002-3281-9323 **CEA:** 0000-0002-7716-8050

Sorumlu Yazar | Correspondence Author

Mehmet Metin

mehmet-mtn@hotmail.com

Address for Correspondence: Hitit University Erol Olçok Training and Research Hospital, Çepni mah, İnönü Cd. No:176, 19040 Merkez/Çorum.

Makale Bilgisi | Article Information

Makale Türü | Article Type: Olgu Sunumu | Case Report

Doi: <https://doi.org/10.52827/hititmedj.1358131>

Geliş Tarihi | Received: 19.09.2023

Kabul Tarihi | Accepted: 22.11.2023

Yayın Tarihi | Published: 26.02.2024

Atıf | Cite As

Metin M, Kahraman H, Coşkun N, et al. Extrahepatic Intra-abdominal Hydatid Cyst Detected Incidentally After Trauma: A Case Report. Hitit Medical Journal 2024;6(1): 92-95 <https://doi.org/10.52827/hititmedj.1358131>

Hakem Değerlendirmesi: Alan editörü tarafından atanan en az iki farklı kurumda çalışan bağımsız hakemler tarafından değerlendirilmiştir.

Etik Beyanı: Gerek yoktur.

İntihal Kontrolleri: Evet - iThenticate

Çıkar Çatışması: Yazarlar arasında çıkar çatışması yoktur.

Şikayetler: hmj@hitit.edu.tr

Katkı Beyanı: Fikir/Hipotez: MM, ÇEA, HK Tasarım: MM, HK, Hİ, GD, NC Veri Toplama/Veri İşleme: MM, HK, CEA, NC, Hİ, GD Veri Analizi: MM, HK, CEA, NC, GD Makalenin Hazırlanması: MM, ÇEA, HK, Hİ

Hasta Onamı: Hastanın ailesinde onam alınmıştır

Finansal Destek: Finansal destek alınmamıştır.

Telif Hakkı & Lisans: Dergi ile yayın yapan yazarlar, CC BY-NC 4.0 kapsamında lisanslanan çalışmalarının telif hakkını elinde tutar.

**39. Ulusal Çocuk Cerrahisi Kongresi'nde Poster Sunumu olarak sunuldu (2-5 Kasım 2022, Kuşadası, Türkiye)

Peer Review: Evaluated by independent reviewers working in the at least two different institutions appointed by the field editor.

Ethical Statement: Not applicable

Plagiarism Check: Yes - iThenticate

Conflict of Interest: No conflict of interest.

Complaints: hmj@hitit.edu.tr

Authorship Contribution: **Idea/Hypothesis:** MM, ÇEA, HK **Design:** MM, HK, Hİ, GD, **NC Data Collection/Data Processing:** MM, HK, CEA, NC, Hİ, GD **Data Analysis:** MM, HK, CEA, NC, GD **Article Preparation:** MM, CEA, HK, Hİ

Informed Consent: Permission was obtained from the parents of the patient for the case report.

Financial Disclosure: No financial support.

Copyright & License: Authors publishing with the journal retain the copyright of their work licensed under CC BY-NC 4.0.

*Presented as a Poster Presentation at the 39th National Pediatric Surgery Congress, 2-5 November 2022, Kuşadası, Türkiye

Extrahepatic Intra-abdominal Hydatid Cyst Detected Incidentally After Trauma: A Case Report

Abstract

Hydatid cyst is a parasitic disease frequently encountered in the liver and lungs, caused by the larval form of *Echinococcus granulosus*. Occasionally, hydatid cysts can be seen in the spleen, kidney, heart, bone, ovaries, and peritoneal cavity. We presented a case of extrahepatic intra-abdominal hydatid cyst, which we detected incidentally in an eight-year-old girl who was investigated for post-traumatic abdominal pain. A radiologic examination of the patient showed a midline cystic mass including septations superior to the bladder, and mesenteric cyst, ovarian mass, and hydatid cyst were considered for differential diagnosis. The indirect hemagglutination (IHA) test result of the patient was negative ($<1/160$), and the diagnosis of hydatid cyst was made by the histopathological evaluation and microscopic examination of cyst fluid following the removal of cystic mass which was well circumscribed by omentum. We believe that extrahepatic hydatid cysts should be considered in the differential diagnosis of intra-abdominal cystic masses, particularly in endemic regions.

Keywords: Cystic mass, extrahepatic, hydatid cyst, trauma.

Özet

Kist hidatik, *Echinococcus granulosus*'un larval formunun neden olduğu sıklıkla karaciğer ve akciğerlerde karşılaşılan paraziter bir hastalıktır. Nadiren de olsa dalak, böbrek, kalp, kemik, overler ve peritoneal kavitede kist hidatik görülebilir. Travma sonrası karın ağrısı nedeniyle araştırılan 8 yaşında bir kız hastada insidental olarak tespit ettiğimiz extrahepatik intraabdominal kist hidatik olgusu sunduk. Radyolojik incelemede orta hatta mesane superiorunda septasyon gösteren kistik kitle saptanan hastada mezenter kisti, over kaynaklı kitle ve kist hidatik ayırıcı tanılarda düşünüldü. İndirekt hemaglütinasyon (İHA) testi sonucu negatif ($<1/160$) olarak raporlanan hastada operasyon sırasında çıkarılan düzgün sınırlı omentumla sarılı kistik kitlenin histopatolojik değerlendirilmesi ve kist sıvısının mikroskopik incelenmesiyle kist hidatik tanısı konuldu. Özellikle endemik bölgelerde karın içi kistik kitle saptanan olgularda ekstrahepatik kist hidatik ayırıcı tanıda düşünülmesi kanaatindeyiz.

Anahtar Sözcükler: Ekstrahepatik, kist hidatik, kistik kitle, travma.

Introduction

Hydatid cyst is a parasitic disease often encountered in the liver and lungs, caused by the larval form of *Echinococcus granulosus*. Although it is a rare occasion, hydatid cysts can be seen in the spleen, kidney, heart, bone, ovaries, and peritoneal cavity (1,2,3). Uncomplicated hydatid cysts are usually asymptomatic. Although the symptoms are usually due to the complications, symptoms may also occur as a result of compression of extensively growing cysts (4).

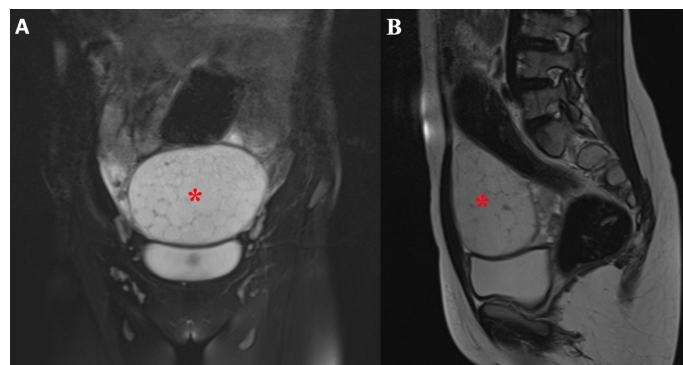
We present a case of extrahepatic intra-abdominal hydatid cyst, which we detected incidentally in a patient who was investigated for post-traumatic abdominal pain. An informed consent form was obtained from the patient's parents for this case report.

Case presentation

An 8-year-old girl was admitted to our emergency department with a history of falling from a height. The patient was complaining of abdominal pain, and she did not have any physical examination findings except for lower abdominal quadrant tenderness. Complete blood count and serum biochemical values were within normal limits (Hb: 12.3 g/L, WBC: $9.8 \times 10^3/\mu\text{L}$, ALT: 15.3 IU/L, AST: 30.3 IU/L). The abdominal ultrasonography (US) of the patient showed a 75x50 mm cystic mass adjacent to the superior of the bladder. Intra-abdominal solid organs were considered normal. A conservative in-patient follow-up was planned for the trauma patient, and contrast-enhanced magnetic resonance imaging (MRI) was performed to evaluate the cystic mass in detail. The MRI detected a midline cystic mass 73 x 100 mm in size within the pelvis, with an oval appearance and smooth contours, showing thin diffuse septations after contrast agent injection (Figure 1). There was no additional pathologic finding in the intra-abdominal solid organs. For the cystic mass, the differential diagnosis of mesenteric cyst, ovarian mass, and hydatid cyst were considered. However, the indirect hemagglutination (IHA) test result of the patient was reported as negative ($<1/160$). The exploratory laparotomy of the patient revealed a well-circumscribed cystic mass surrounded by the omentum adjacent to the bladder in the pelvic region, and peritoneal surface was covered with multiple millimetric-sized cystic structures. The cystic mass was removed along with the surrounding omentum (Figure 2). Additionally, cystic structures on the peritoneal surface were excised for histopathological and microbiological sampling. The direct microbiological examination of the cyst fluid showed protoscolex structures. As well as histopathological examination revealed findings

in favor of hydatid cyst. Albendazole treatment was started on the patient who had no postoperative problems, the treatment was continued for 6 months, and no recurrence was observed during the 1-year follow-up.

Figure 1. Coronal (A) and sagittal (B) view of the cystic mass with septations adjacent to the superior of bladder demonstrated with asterisk on MRI images.



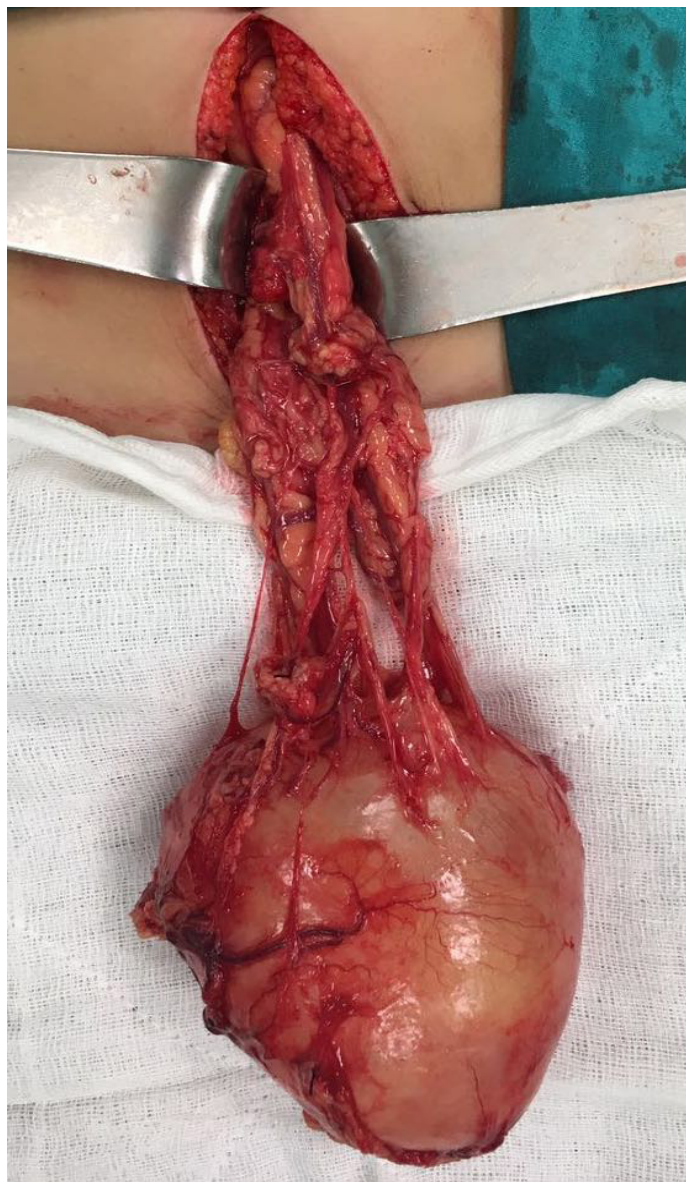
Discussion

Particularly in endemic regions hydatid cysts should be considered in the differential diagnosis of intra-abdominal cystic lesions in children. Although hydatid cysts are usually encountered in the liver and lungs, they can be seen anywhere in the body. However, primary omental hydatid cyst is an extremely rare condition. Symptoms of hydatid cyst disease usually depend on the location and size of the cyst. Abdominal distension and pain, nausea, vomiting, and urinary symptoms due to bladder compression may be observed. US, CT, and MRI are the most utilized radiological examinations for the diagnosis of liver hydatid cyst disease, nevertheless, preoperative diagnosis of isolated intra-abdominal disease is quite difficult (5). The sensitivity of IHA, which is one of the serological tests used in the diagnosis of hydatid cysts can decrease to 52.2% depending on various factors (6). It has been reported that the sensitivity of serological tests is lower in cases with extrahepatic localization as compared to liver hydatid cysts (6,7). Similarly, in our case, preoperative radiologic examinations and IHA tests were not helpful for the definitive diagnosis. The diagnosis of a hydatid cyst was made after surgical exploration of the case with the histopathological and microbiological examination of the removed cyst covered with omentum.

As an endemic parasitic disease in our country, *Echinococcus alveolaris* disease should also be considered in the differential diagnosis of such cystic masses, which may pretend a malignant disease by spreading from liver to various tissues including lungs, spleen, kidney, pancreas, lymphoid tissues,

bone, ovaries, adrenal gland, and cerebrum (8).

Figure II. Operative image of the intra-abdominal hydatid cyst surrounded by omentum.



Surgery is important in both the diagnosis and treatment of intra-abdominal hydatid disease. The ideal treatment is to excise the entire cyst by careful dissection, and separating it from the surrounding organs without rupturing, to prevent spread and contamination (9). For this purpose, operative treatment is performed with open and laparoscopic surgical techniques. Since we did not have a definitive preoperative diagnosis, we preferred open surgery for our patient.

In conclusion, hydatid disease should be considered in the differential diagnosis of intra-abdominal cystic lesions in children, particularly in endemic regions. It should be kept in mind that using imaging methods and laboratory tests alone in the diagnosis may especially miss extrahepatic hydatid disease.

References

1. Kütükçü E, Kapan S, Turhan AN, Ede B, Aygün E. Pankreatik kist hidatik: Olgu sunumu. Bakırköy Tıp Dergisi 2005; 1: 74-76.
2. Balık AA, Çelebi F, Basoglu M, Oren D, Yildirgan, Atamanalp SS. Intra-abdominal extrahepatic echinococcosis. Surg Today 2001; 31: 881-884.
3. Topçu R, Sezikli İ, Erkent M, et al. Ekstrahepatik yerleşimli primer intraabdominal kist hidatiklere cerrahi yaklaşım. Turkish Journal of Clinics and Laboratory 11(5), 419-423.
4. Oneto AR, Salgueiro FO, Fiorentino JA, et al. A complicated liver hydatid: experience at one center. Cir Pediatr 1998; 11:30-36.
5. Erkan N, Yıldırım M, Özdemir DA, Akdeniz S, Boz A, Polat AF. Dev intraabdominal hidatik kist: Preoperatif tanı zorluğu ve tedavisi. Akademik Gastroenteroloji Dergisi 2004; 3: 39-41.
6. El-Sherbini M, Yousif A, Ismail S, Abdelraouf A, Abdel-Shafi I. Anatomical patterns of intrahepatic cystic echinococcosis in reference to serological and clinical findings. Parasitologists United Journal 2020; 13(2): 107-113.
7. Guraya SY, Alzobydi AH, Guraya SS. Primary extrahepatic hydatid cyst of the soft tissue: a case report. J Med Case Rep 2012 Nov 26;6:404
8. Aras Y, Sabancı AS, Boyalı O. ve ark. Kraniyal Metastazlı Alveolar Ekinokok: Olgu Sunumu ve Literatürün Gözden Geçirilmesi. Türk Nöroşir Derg 2014, Cilt: 24, Sayı: 3, 298-305
9. Prousalidis J, Tzardinoglou K, Sgouradis L, Katsolis C, Aletras H. Uncommon sites of hydatid disease. World J Surg 1998; 22: 17-22.