



Laparoscopic Splenectomy for Splenic Cyst Hydatid

Selim Sözen, Mehmet Aziret, Sabri Özdaş, Nevzat Akdoğan

Elazığ Education and Research Hospital,
Department of General Surgery, Elazığ,
Turkey.

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Abstract

Hydatid cyst disease is an important public health problem in some countries including Turkey. Hydatid disease is most commonly seen in the liver and lungs, but rarely in the spleen, kidney, pancreas, ovaries and abdominopelvic cavity. In this report, a 29-year-old women with a isolated splenic hydatid cyst who underwent laparoscopic splenectomy is presented. Laparoscopic splenectomy remains the treatment of choice because it demonstrates low morbidity and mortality rates.

Key Words: Hydatid cyst, lungs, splenectomy

Dalak Kist Hidatiği Nedeniyle Laparoskopik Splenektomi

Özet

Kist hidatik hastalığı, Türkiye dahil bazı ülkelerde önemli bir halk sağlığı sorunudur. Kist hidatik en sık karaciğer ve akciğerlerde, ancak nadiren dalak, böbrek, pankreas yumurtalıklar ve batin boşluğunda da görülür. Bu yazıda, izole dalak kist hidatiği nedeniyle laparoskopik splenektomi uygulanan 29 yaşındaki bayan hasta sunuldu. Düşük morbidite ve mortalite oranları göstermesi nedeniyle Laparoskopik splenektomi tedavi seçeneğidir.

Correspondence: Dr. Selim Sözen
Yurt mahallesi. 71335 sokak. 13/19 İrfan
Altaş apt. Çukurova / Adana
Tel: 05359631969
E-mail: selimsozen63@yahoo.com.

INTRODUCTION

Hydatid cyst disease is an important public health problem in some countries including Turkey (1). Hydatid disease is most commonly seen in the liver and lungs, but rarely in the spleen, kidney, pancreas, ovaries and abdominopelvic cavity (2). In this report, a case of isolated splenic hydatid cyst was evaluated, diagnosis and treatment options were reviewed. Splenomegaly is the most important physical examination finding in isolated splenic hydatid cyst. Splenectomy is the standard treatment modality, but laparoscopic splenectomy, conservative surgical procedures or percutaneous treatment modalities can be used in suitable patients. Laparoscopic splenectomy remains the treatment of choice because it demonstrates low morbidity and mortality rates.

CASE

A 29 year old woman presented with a six weeks history of left upper quadrant heaviness. On examination the spleen was just palpable under the costal margin. Ultrasonography, chest radiography, and computed tomography revealed an 8*6 cm cyst occupying the middle pole of the spleen (Figure 1), but no involvement of the liver, kidney, and chest. Indirect haemagglutination test for hydatid diseases was negative. Laparoscopy was made in this case with isolated splenic hydatid cyst. Patient underwent surgery in a full lateral position. No operative complications, such as peritoneal cavity infection, massive bleeding after operation and adjacent organs injured were observed. Postoperative recovery was uneventful and the drain was removed after 24 hours. The patient was discharged on the third postoperative day. Histology of the membrane showed a laminated acellular wall with fibrocollagenous tissue. Albendazole 400 mg twice daily was started from the first postoperative day and continued for two months, during which his liver function tests and full blood count were normal. The therapy was repeated after a 2-week interval for a total of three cycles.

DISCUSSION

Hydatid cyst disease is an important public health problem in some countries including Turkey (1). The disease localized in liver and lungs in most of the cases, but also could be exists everywhere in the body. The spleen is the third most common organ involved in hydatid dis-

ease after the liver and lung (2). Its incidence in various reported series varies from 0.9% to 8% (1,3,4). The most common symptoms among those operated on electively were vague abdominal pain or discomfort and/or a palpable mass in the left hypochondrium. Preoperative investigations included a plain abdominal x-ray, ultrasonography (US), computed tomography (CT), and immunological tests, i.e. casoni's, indirect hemagglutination test (IHA), and an enzymelinked immunosorbent assay (ELISA). This entity should thus be kept in mind when encountering a splenic cyst especially in areas where the disease is endemic. The basic principle of the immunological tests is based on determining the antibodies produced as a consequence of leaking antigens from the cyst fluid. The tests may be negative if there is no leakage, the cyst is calcified or the parasite is dead. A splenectomy remains the treatment of choice because it demonstrates low morbidity and mortality rates. Ultrasound is the most useful noninvasive diagnostic test and is also used to classify the cysts (5,6). Nevertheless, computed tomography provides better information regarding the location and size of the cyst (7). CT provides better information regarding the size and location of the cysts, its relationship between the adjacent structures and the presence of the cysts in other organs. Its sensitivity rate is 100%.

Although various theories have been put forth regarding the etiopathogenesis of splenic hydatidosis, the first and most acceptable pathophysiological and pathologic anatomical study was published by Bourgeon et al. in 1960 (9). After crossing the two filters (i.e., liver and lung), the hexacanth embryo gets lodged in the periphery of the splenic capillaries. The incompressible mass of the growing cyst gradually crushes the segmentary vessels with extensive pericystic atrophy and the formation of regional necrotic zones (8). Regarding the surgical management of splenic hydatidosis, various techniques have been used by various authors. Conservative surgery such as a partial splenectomy cyst enucleation, or deroofting of the cyst with omentoplasty or external drainage have been performed for superficial cysts, cysts localized to one pole of the spleen, or cysts that are unresectable due to extensive adhesions (9-11). Polat FR and et al suggested laparoscopic spleen-preserving cystotomy and omentoplasty (14). Some authors preferred laparoscopic hand-assisted splenectomy (15). None of these conservative procedures are free of complications such as hemorrhage after a partial splenectomy



Figure 1. Computed tomography revealed an 8x6 cm cyst occupying the middle pole of the spleen

or an infection of the residual cavity after deroofing the cysts. We preferred splenectomy because of low morbidity and mortality rates. The right lateral position has more advantages than the conventional supine approach by providing a more direct view of the splenic hilum as well as other important anatomies. The most popular chemotherapeutic agent in the medical management of splenic cyst hydatidosis is albendazole. But its efficacy alone is low (12,13).

Since 1980 there has been a trend towards splenic conservation to avoid overwhelming post splenectomy infection (OPSI). Children are more prone to OPSI. The clinical syndrome of OPSI comprises fulminant bacteraemia, disseminated intravascular coagulation, multiple organ failure, severe hypoglycaemia and often rapid death. Its reported incidence after splenectomy varies from 0.9 to 60% with mortality exceeding 50%. The Hib and meningococcus C conjugate vaccines should be given at least 2 weeks before or 2 weeks post splenectomy, The splenectomized patient should be vaccinated to decrease the risk of overwhelming postsplenectomy sepsis (OPSS) due to organisms such as *Streptococcus pneumoniae*, *Haemophilus influenzae* type B, and *Neisseria meningitidis*. Patients should be educated prior to discharge on the risk of OPSS and their immunocompromised state.

Although laparoscopic splenectomy, conservative surgical procedures or percutaneous treatment modalities can be used in suitable patients, Splenectomy is the standard treatment modality, the right lateral position had more advantages than the lithotomic position and the right recumbent position in LS. In addition, post-operative Albendazole therapy has been proven to be effective in preventing a recurrence of splenic disease.

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