

## Case Report

# A Pelvis Hydatid Cyst Disease Presenting with Perforated Peptic Ulcer Symptoms

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Received: November 23, 2021; Accepted: December 11, 2021; Published: December 18, 2021

## Abstract

**Introduction/Objective:** Hydatid parasitic infection in humans can be caused by the parasite *Echinococcus*. Hydatid cysts form mainly in the liver and lungs. Cysts can rarely be found in other organs. Hydatid cyst in the pelvis can be secondary to rupture of the hydatid cyst in the spleen or kidneys. Primary pelvic hydatid cysts are very rare. Complications and symptoms of hydatid cyst depend on its location. Surgery is the basis of treatment for hydatid cysts.

**Case Presentation:** In this report, we introduce the patient who presented with abdominal pain from a few months ago and acute abdominal Pain from a few months ago and acute abdominal pain from a few days ago started gradually in the patient before hospitalization. The unusual patient's history attracted the attention of the physician and surgeon from the beginning. In diagnostic studies, hydatid cyst and its concomitance with perforated peptic ulcer were discussed. Due to the rarity of hydatid cyst in this patient and its association with perforated peptic ulcer, clinical scenario, clinical manifestations, and approach to them, can be interesting for physicians and researchers.

**Result and Conclusion:** Many studies have shown that hydatid cysts can affect many organs and tissues. In patients with hydatid cysts, it should be remembered that the disease could affect the pelvis without liver or lung involvement. Careful attention to the patient's symptoms and medical history and the correct use of diagnostic and imaging methods will help better treatment for the patients.

**Keywords:** Hydatid cyst; Perforated peptic ulcer; Abdominal pain; *Echinococcus granulosus*

## Introduction

The *Echinococcus* parasite in humans can cause hydatid parasitic infection. This disease is a serious health-threatening problem that can be seen in different parts of the world, such as the Middle East, South Africa, Turkey, and anywhere else that there is direct human contact with livestock such as sheep and cattle and other animals such as dogs. Iran is one of the countries in which this problem can be observed as an endemic health hazard [1,2]. The disease is caused by the *Echinococcus granulosus larva*, *Echinococcus multilocollaris*, and *Echinococcus oglei*. In studies conducted in Iran, the prevalence of this disease is estimated about 5% [3,4].

Hydatid cysts occur mainly in the liver (50% to 70%) and lungs (20% to 30%) [5]. Liver is the first organ to cross the portal circulation, and many larvae remain there. Larvae that pass through the walls of the liver arteries can infect the lungs. In some people, the larvae pass through the capillaries of the liver and lungs, allowing them to reach anywhere in the body. Therefore, cysts can rarely be found in other organs. Hydatid cyst in the pelvis can be secondary to rupture of the hydatid cyst in the spleen or kidney. Primary pelvic hydatid cysts are very rare and occur between 0.2% and 2% in body. Although the pathophysiology of involvement of parts of the body, including the pelvis, is unclear, there are theories that the blood circulation or lymphatic system transmits larvae [2,6]

Ultrasound is the first diagnostic method in a patient suspected of having a hydatid cyst [2]. Although another diagnostic way is a CT scan, and the sensitivity of this method in diagnosing hydatid cyst is 90% to 100%. In addition, hydatid cysts have characteristic imaging findings that can be seen based on their stage [7].

Complications and symptoms of hydatid cyst depend on its location. Pelvic hydatid cysts can cause vague abdominal pain and obstructive symptoms, and if they are large, a pressure effect on the bladder can cause urinary symptoms [7]. Surgery is the basis and main way of treatment for hydatid cysts [1].

This case report introduces a patient with ambiguous abdominal pain a few months ago and acute abdominal pain a few days before hospitalization. The unusual and unique patient history attracted the attention of the physician and surgeon from the beginning. In investigations, the hydatid cyst and its concurrence with perforated peptic ulcer, was at the forefront of possible diagnoses. Due to the rarity of the location of hydatid cyst in this patient and its association with perforated peptic ulcer, the clinical scenario, clinical manifestations, and approach to it, this case can be interesting for physicians and researchers.

## Case Presentation

The patient is a 73-year-old man who presented with no history of underlying disease and complained of abdominal pain and lack of



Figure 1: Hydatid cyst coronal CT scan view.

defecation. The patient's abdominal pain had been vague for several months, with a predominance of the lower abdomen and hypogastric. It has nothing to do with defecation or feeding. It has been persistent and mild and has improved with the use of painkillers. He also mentioned occasional constipation at the beginning of the pain. From 7 days before hospitalization, the patient's pain suddenly intensified. This time it was in the epigastrium and upper abdomen and was accompanied by several episodes of nausea and vomiting. The patient also gives a history of not defecating from 5 days ago and mentions that he had gas passing. The patient had referred to the clinic of Poursina Hospital and was admitted to the surgical ward due to these symptoms. The patient had stable vital signs at the time of admission. He did not have a fever. On abdominal examination, the patient had a mild distension. He had mild tenderness in the epigastrium and RUQ, but rebound or guarding were not detected during the abdominal examination. Upright CXR, upright and supine abdominal X-ray was performed for the patient. There was no sign of Pneumoperitoneum and no obstruction level in the performed images. Fecal was evident in the colon. He did not have leukocytosis in the lab tests and the liver tests were not impaired.

WBC was 9000 and Hb was 12. Abdominal and pelvic ultrasounds were also performed. Ultrasound showed no evidence of free fluid in the abdomen or pelvis. The gallbladder and bile ducts were normal. Furthermore, a multilocular cystic measuring approximately 90 x 67 mm was seen in the pelvis. For further evaluation, abdominal and pelvic CT was performed with oral and IV contrast. The CT scan showed an image of a multilocular lesion with dimensions of 107 x 72 mm in the pelvic cavity in the rectovesical space that continues to the pelvic cavity inlet. The lesion was adjacent to the descending colon and small intestine with a compressive effect on the small intestine, which was proposed in the differential diagnosis of hydatid cyst (Figure 1 and 2). Inflammatory changes were also seen in the subhepatic and gastrohepatic spaces, and a small extraluminal air was observed in the subphrenic space, suggesting a perforated peptic ulcer.

Due to the diagnosis of hydatid cyst, an open operation was performed. In early exploration of the abdominal cavity, biliary and peripheral secretions around the stomach and peripyloric area attracted attention. With careful site exploration, a peripyloric



Figure 2: Hydatid cyst axial CT scan view.



Figure 3: Hydatid cysts removed from the patient's body.

perforation was seen in the stomach. The perforation site was washed after repair and an omental patch. There was no evidence of a mass like lesion in other areas of the abdomen. No liver metastasis was found. Examination of the pelvis showed a large cyst about 10 in 10cm behind the bladder in the vicinity of the descending colon and small intestine with a compressive effect on the small intestine. It was discreetly removed from the surrounding tissues (Figure 3). After providing necessary homeostasis, the pelvic area was washed with hypertonic saline, and the abdomen was closed. After the operation, the patient was transferred to the ICU and transferred to the surgery ward two days later. Albendazole treatment was started for him. The patient was discharged from the surgery department in good general condition after PO tolerance and defecation. There was no complication in the one-month follow-up.

## Discussion

Iran is one of the hyperendemic regions of cystic echinococcosis disease. The prevalence of this disease in Iran is about 1 to 3 per 100,000 people, and studies have shown that this disease is more prevalent in men [8]. The patient we studied was an elderly man who presented with vague abdominal pain about a few months ago with a history of contact with livestock and dogs.

The symptoms of a hydatid cyst depend on where it occurs in the body. Sometimes the symptoms are caused by compressive effects [7]. In our patient, the symptoms were initially vague abdominal pain. The patient was taking painkillers because of the pain. The sudden and acute pain in patients was probably due to the patient's perforated peptic ulcer, which could be due to the use of analgesics. Therefore, one of the essential points in this report is to pay attention to the fact that educating patients to pay attention to the symptoms and avoid arbitrary use of painkillers in long-term pain. It can cause increasing

the correct diagnosis of diseases and prevent complications.

No studies have reported the concurrence of perforated peptic ulcers and hydatid cysts yet. This is also important in several ways. Hydatid cysts can cause symptoms such as vague local pain that should be taken seriously. Patients who complain of persistent, vague chronic pain should be evaluated. The second point is that it is important to pay attention to the history of abdominal pain in patients and clinical examinations. For example, this patient presented with acute abdominal pain in the epigastrium with an initial differential diagnosis of peptic ulcer. However, this diagnosis did not explain his vague abdominal pain. Therefore, the patient was advised to do ultrasonography in addition to simple radiography. Although the X-rays did not confirm pneumoperitoneum, but ultrasound suggested hydatid cyst for the patient. Due to epigastric pain and epigastric tenderness, which was not explained by hydatid cyst, further investigation was performed by CT scan for the patient. The CT scan findings were consistent with the clinical examination, and the patient underwent surgery. Due to the lack of symptoms in favor of generalized peritonitis and insufficient evidence in favor of a perforated peptic ulcer, the patient did not undergo emergency surgery at the time of hospitalization. It is clear that in the presence of these symptoms, the patient had to have an emergency laparotomy, abdominal and pelvic exploration and resolving possible pathologies.

Retrovesical and primary pelvic hydatid cysts are rare and have been reported occasionally [2]. Ultrasound is the primary diagnostic modalities of these cysts, although it may not be effective for deep pelvic lesions [2]. Treatment of hydatid cyst includes medication and surgery. Albendazole treatment should be continued for one month for patients [1].

One of the most common complications of hydatid cyst surgery is an allergic reaction due to cyst rupture [1]. Fortunately, the cyst in our patient was carefully removed, and the pelvis was washed with hypertonic saline, and the patient did not reveal any allergic complications.

## Conclusion

Many studies have shown that hydatid cysts can affect many organs and tissues. In patients with hydatid cysts, it should be considered that the disease could affect the pelvis without hepatic or pulmonary involvement. Careful attention to the patient's symptoms and history and the correct use of diagnostic and imaging methods will help better treatment for the patients.

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