Primary hydatid cyst of the axilla presenting as axillary abscess

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European Journal of Medical Case Reports
Volume 4(4):145–148

https://doi.org/10.24911/ejmcr/173-1583516292

ABSTRACT

Background: Hydatid disease is a zoonotic infection caused by a parasitic infestation by a tapeworm, *Echinococcus*, most commonly involving the liver and lungs. Subcutaneous site involvement is rare and has been reported in 1.6% of cases till date.

Case presentation: We present a 45-year-old male with a swelling in the right axillary region for years with a recent increase in size and association with fever and pain. The patient was diagnosed as hydatid cyst intraoperatively treated with complete surgical excision and standard medical therapy with an anthelmintic drug, albendazole.

Conclusion: Hydatid cyst should be considered as a differential diagnosis in subcutaneous cysts to avoid rupture, subsequent anaphylactic reactions, and recurrence.

Keywords: Hydatid cyst disease, *Echinococcosis*, *Echinococcus granulosus*, axillary abscess, subcutaneous localization.

Received: 19 March 2020 **Accepted:** 23 April 2020

Type of Article: CASE REPORT **Specialty:** Surgery (General)

Funding: None.

Declaration of conflicting interests: The authors declare that there is no conflict of interests regarding the publication of this case report.

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Background

Hydatid disease is a zoonotic disease caused by *Echinococcus granulosus* and transmitted to humans through ingesting eggs of this parasite [1–3]. Hydatid cyst disease most commonly (90%) involves the liver and lungs but can involve other organs as well. Subcutaneous site involvement is around 1.6% [1–5]. It has vague presentation regardless of its size and the organ that it is involving. Hydatid cyst disease is common in regions such as Africa, Europe, the Middle East, Central and South America, Australia, and Russia [4].

A diagnosis of hydatid cyst is based on radiological imaging, but serology may aid in diagnosis. Usually, ultrasound findings are cystic lesion containing single or multiple fluid-filled cavities. Magnetic resonance imaging (MRI) is a preferred imaging modality of choice, which shows the characteristics of cystic lesion such as its location and its relationship with the surrounding structures [6]. The appearance of this disease on radiology varies from it being a cystic lesion containing clear fluid, with or without a rim of calcification, multicystic, or calcified cyst [7]. Few cases have been recently reported of hydatid disease involving the axillary region. Here, we report a case of hydatid cyst in the axillary region presenting as an axillary abscess. This case has been reported in line with the CARE guidelines [8].

Case Presentation

Patient information

A 45-year-old male presented to a surgical emergency with a complaint of a swelling in the right axillary region which suddenly increased in size during the past week. This swelling was present for years causing no symptoms, so the patient did not seek medical advice for it. In the past week, swelling suddenly increased in size and associated with high-grade fever and pain. The patient is a farmer by profession and has decompensated chronic liver disease, for which he is undergoing treatment.

Physical examination

On examination, there was an 8 cm × 10 cm swelling in the right axilla which was tender and fluctuant (Figure 1). It was not fixed to the chest wall.

Diagnostic assessment

An ultrasound of the swelling showed fluid with multiple septations suggesting of an abscess, so the diagnosis of axillary abscess was made. A chest CT scan showed swelling on the right axillary region with fluid inside (Figure 2). The swelling was not communicating with the pleura. Based on history, the clinical finding and imaging, diagnosis of axillary abscess was made and planned to drain in emergency.

Intervention

A Preoperative diagnosis of axillary abscess was made and was planned for open drainage. Incision was given initially, Pus of around 100 ml was drained along with innumerable cysts from the cavity. On Intraoperative findings, the diagnosis of hydatid cyst was made, complete evacuation of all daughter cysts was performed (Figure 3), and the cavity was washed with formalin. Later, biopsy of the retrieved material confirmed the diagnosis of Echinococcosis i.e hydatid cyst. A post-operative CT scan of the abdomen and pelvis was done to differentiate primary disease from secondary. No cystic lesion was found in the abdomen, pelvis, or pulmonary tissue.

Follow-up and outcome

The patient was discharged the next day after the surgery with no post-operative complication with the advice of daily dressing of abscess cavity. The patient received albendazole therapy for 6 weeks postoperatively for the possibility of residual disease. A follow-up ultrasound after 2 weeks was done showing normal examination with the healing of abscess cavity, and the patient was called for follow-up. The patient got lost to follow up, on contacting it came to our knowledge that the patient has died due to decompensated chronic liver disease.

Table 1. Timeline of events.

DAY	EVENT
0	Swelling at the right axilla
4	Pain in swelling and high-grade fever
7	Presented to hospital and excision of cyst done in emergency theater
8	Post-operative care in ward
9	Discharged

Figure 1. *Swelling in right axilla.*

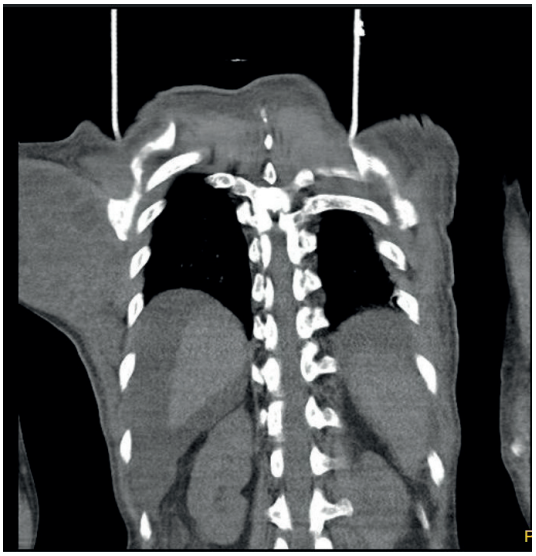

Figure 2. *Pre-operative CT show cystic swelling (marked with arrow) with fluid in right axilla separate from chest wall.*

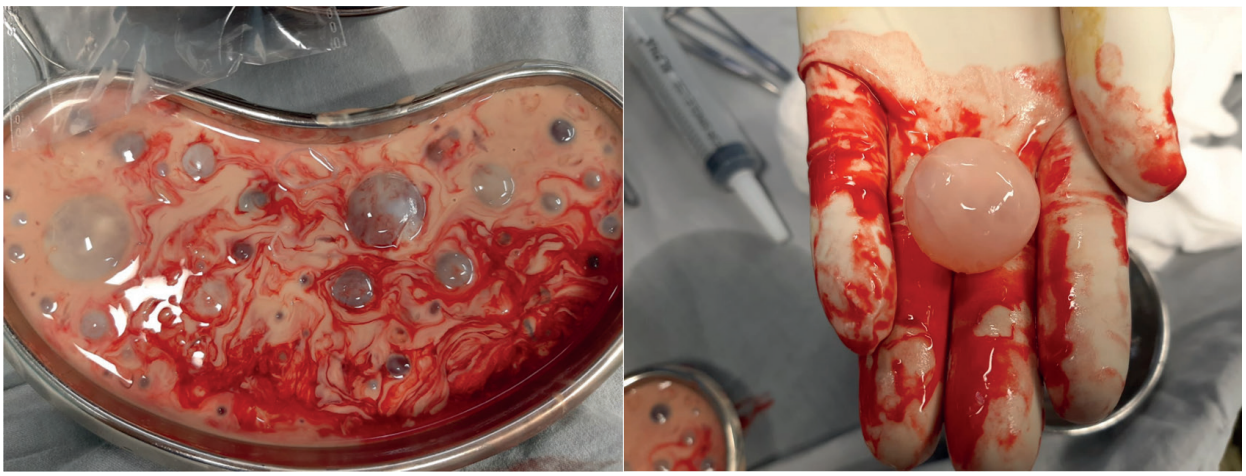

Figure 3. *Intra-operative images show multiple cysts with fluid.*

Discussion

Hydatid cyst disease is endemic in the areas such as the Mediterranean countries, the Middle East, New Zealand, South America, and Australia, especially in sheep or cattle raising countries, and it is considered as a major health problem, as there are no major preventive measures taken for its transmission till date [4,9].

Although hydatid cyst disease is common in the liver and lungs, a rare localization of hydatid cyst disease is found in the spleen, soft tissue, abdominal cavity, kidneys, brain, bone, pancreas, breast tissue, pelvis, joints, bladder, heart, ovaries, thyroid gland, retroperitoneum, incision scar, and common bile duct. Primary hydatid disease of the axillary region is rare, even in endemic regions, and up till now, only 22 cases have been reported; none of them were from Pakistan [10].

In those published cases, disease was primarily involving the axilla. A solitary cystic lesion in axilla considered to be the primary disease when the cyst is not found in other relatively common sites of occurrences [11]. Our case showed hydatid cyst involving only axillary region without evidence of disease in other organs.

Clinical features of hydatid disease are nonspecific and depend on cyst site, size, and its pressure effects. The main symptoms of hydatid cyst presentation are of an enlarging mass gradually increasing in size with persistent pain and discomfort. However, if superseded by infection or ruptured, it may mimic as an abscess or tumor [9,12]. The patient's initial complaint on presentation was pain and sudden increase in a previously painless axillary swelling that was present since a few years. The patient was also experiencing high grade fever along with these symptoms.

The common imaging used to diagnose hydatid cyst disease is an ultrasound, computed tomography (CT) scan, and MRI. MRI is more sensitive and shows all the characteristics of the cyst with its relation with the surrounding tissues, exact location, and involvement [13]. Ultrasonography and CT scan both show a collection of multiple septations.

A pre-operative diagnosis is important in a patient with hydatid disease to avoid rupture or spillage of daughter cyst or its contents in systemic circulation during surgical excision [9]. Our case presented as axillary abscess and hence diagnosed intraoperatively. Cysts were ruptured intraoperatively, but no anaphylactic reaction was observed.

Conclusion

Apart from the organs commonly affected by hydatid disease, hydatid disease should also be kept as a differential diagnosis of the cyst at a rare location as the case presented above that was of an axillary abscess diagnosed as hydatid disease intraoperatively. A pre-operative diagnosis in a patient with hydatid disease is important to avoid rupture or spillage of its contents to avoid its systemic circulation. On contrary to popular facts, the patient presented with the above cyst was ruptured, but no anaphylactic reaction was observed, and the disease was treated by complete excision and standard medical therapy with albendazole. The patient was also screened for disease affecting common viscera that turned out to be negative.

What is new?

Hydatid cyst caused by echinococcus granulosus commonly (90%) involves the liver and lungs but can involve other organs as well. Subcutaneous site involvement is around 1.6%. It has vague presentation regardless of its size and the organ that it is involving. We report a case of a hydatid cyst in the axillary region presenting as an axillary abscess.

List of Abbreviations

CT	Computed Tomography
MRI	Magnetic resonance imaging

Consent for publication

Written informed consent was obtained from son as patient expired, for publication of this case report.

Ethical approval

Ethical approval is not required at our institution for publishing an anonymous case report.

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Summary of the case

1	**Patient (gender, age)**	45-year-old male patient
2	**Final diagnosis**	Hydatid cyst (Echinococcosis) of Axilla
3	**Symptoms**	Painful swelling in the right axillary region which suddenly increased in size during the past week associated with high-grade fever.
4	**Medications**	Albendazole
5	**Clinical procedure**	Excision of Cyst
6	**Specialty**	General Surgery