

# Cervical Hydatid Cyst: An Atypical Presentation of a Common Parasitic Disease

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## ABSTRACT

Hydatid cyst disease is a common condition and can affect any organ in the body, but its presentation as a neck mass is rare; therefore, even in endemic areas, the condition remains undiagnosed until surgical exploration is performed. The authors present a case of 48-year male who presented with painless mass in the right side of neck for 1 year. Mass was multilobulated, soft, and nontender with a size of 10 x 7 cms in the right supraclavicular region. A clinical diagnosis of cold abscess or cystic hygroma was made. Ultrasound neck revealed loculated cystic lesion in the right supraclavicular region extending to posterior cervical triangle suggestive of cystic hygroma or necrotic lymphadenopathy. FNAC was inconclusive. CT scan neck reported multiple hypodense lesions likely representing enlarged lymph nodes. Mass was completely excised *in toto*. Upon opening, multiple daughter cysts were found inside. Histopathology confirmed the diagnosis of a hydatid cyst.

**Key Words:** Cervical hydatid cyst, Neck mass, Atypical presentation.

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## INTRODUCTION

Hydatid cyst disease, caused by tapeworm infection with *Echinococcus Granulosus*, can affect any organ/site in the body, but it commonly affects the liver and lungs.<sup>1,2</sup> Neck is an unusual site of occurrence for hydatid cyst, and therefore, diagnosis is missed even in cases of patients presenting with cystic neck mass in endemic areas.<sup>3-5</sup>

## CASE REPORT

A 48-year male presented with a painless mass on the right side of the neck for past one year. The mass had gradually increased in size. Patient did not report any fever, weight loss, or compression symptoms (nerve-related issues such as numbness or weakness in the arm or hand; swelling of the arm and face due to venous obstruction or hoarseness of voice). On local examination, a multi-lobulated mass measuring 10 x 7 cm was observed in the right supraclavicular region extending upwards and laterally (Figure 1). It was soft, fluctuant, nontender, transilluminant, and partly compressible with no signs of inflammation. No regional lymphadenopathy was found.

A clinical diagnosis of cold abscess or cystic hygroma was made. Ultrasound neck revealed a loculated cystic lesion in the right supraclavicular fossa extending to the posterior cervical triangle, suggestive of cystic hygroma or necrotic lymphadenopathy. Fine needle aspiration cytology (FNAC) showed mucoid material with clusters of cells. CT scan of the neck reported multiple hypodense lesions with a well-defined lobulated outline seen in the right axillary and supraclavicular region. The lesion showed internal septations and peripheral wall enhancement, likely representing enlarged lymph nodes with the possibility of TB lymphadenitis or metastatic lymph nodes (Figure 2). Due to diagnostic ambiguity, the patient was taken for surgical exploration under G/A. An oblique incision was made, and multiple cystic masses attached to each other and to the surrounding soft tissues beneath the sternocleidomastoid muscles were found. Gentle traction over the lowermost swelling near the clavicle retrieved two additional masses from the supraclavicular fossa and the apex of the axilla. Finally, complete excision of masses *in toto* was done; a negative suction drain was placed. Upon opening the excised masses in a tray, multiple daughter cysts were found (Figure 3). The patient had a smooth recovery postoperatively, although the suction drain was accidentally dislodged on the 2<sup>nd</sup> postoperative day. A postoperative abdominal ultrasound showed no evidence of additional hydatid cysts. The patient was discharged on the 3<sup>rd</sup> postoperative day on Albendazole 400 mg twice daily for 28 days. At the first follow-up, one week later, the patient came with swelling at the site of incision. Approximately 20 ml of serosanguineous fluid was aspirated. At the second follow-up (week 2), the patient had re-collection; however, it was smaller and only 10 ml serosanguineous fluid was aspirated. The sutures were removed as the wound had healed. At the third follow-up, the patient was well with no recurrence. Histopathology confirmed the diagnosis of hydatid cyst.

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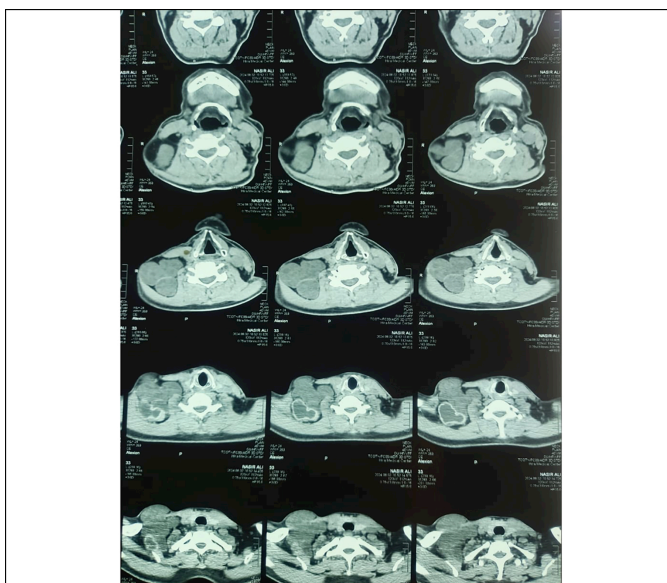
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**Figure 1:** Patient with mass on the right side of the neck on the OT table.



**Figure 2:** CT scan of the neck showing cystic lesions on the right side of the neck.



**Figure 3:** Specimen of hydatid cyst opened in a tray after its evacuation.

## DISCUSSION

Hydatid cyst disease is a parasitic infection caused by the larval form of the tapeworm *Echinococcus*.

It has two species which commonly affect humans: *Echinococcus Granulosus*, causing cystic *Echinococcus*, and *Echinococcus Multilocularis* causing Alveolar *Echinococcus*.<sup>6</sup>

The unilocular cystic form caused by *E. granulosus* is far more common than the rare multilocular form caused by *E. multilocularis*.<sup>7</sup>

Parasite passes its life cycle in two hosts; the definitive hosts are dogs, wolves, and foxes, while intermediate hosts are sheep, cattle, horses, and humans. Eggs enter the human body through the orofaecal route due to close contact with dogs, cattle, or sheep. Eggs hatch in the small intestine and reach the organs such as the liver and lungs through circulation, where they form cysts. If they succeed in passing through the lungs, they enter the systemic circulation and can infect any organ in the body. Most common organs involved are liver, followed by lungs, but almost any organ can be involved.<sup>6,7</sup>

Hydatid cyst of the neck is a rare occurrence even in endemic areas; therefore, the condition remains undiagnosed before surgery. It comprises 0.75% of all cases of hydatid cysts.<sup>8</sup>

The involvement of the neck is thought to be caused by the systemic circulation of the *Echinococcus* embryos in the lymphatic system. Whenever the hydatid cyst is detected in any organ, it is essential to conduct a complete systemic examination to exclude the risks of multiple organ infection.<sup>9</sup>

Hydatid cyst is slow growing and usually asymptomatic, but whenever symptoms develop, they are due to pressure effects on surrounding organs or due to infection and are related to the site and size of the cyst.

Hydatid cyst, though diagnosable by ultrasound, CT, MRI, and serologic tests, is often missed in rare sites such as the neck and mistaken for its more common differentials, such as lipoma, cold abscess, cystic hygroma, or branchial cleft cyst. The same happened in our case where no investigation nailed the proper diagnosis, and decision of surgical exploration was made, and the diagnosis of hydatid cyst was confirmed intraoperatively.

Treatment options for hydatid cyst include medical treatment with Albendazole for smaller cysts, PAIR, cystectomy with capitonnage, and pericystectomy. Certain measures are taken to prevent the recurrence of hydatid cyst, such as instilling scolical solution in the cyst before opening it; wrapping the surrounding area with white gauze impregnated with scolical agent. Luckily, in the present case, the cyst was removed intact.

Therefore, a high index of suspicion should be considered for hydatid cyst in all those patients presenting with cystic swelling in the neck in order to prevent the peroperative spillage of contents and therefore recurrence or any complication in the perioperative period.

## PATIENT'S CONSENT:

Informed and written consent was obtained from the patient to publish his data and pictures related to this case. The patient was assured that his identity would not be disclosed.

## COMPETING INTEREST:

The authors declared no conflict of interest.

## AUTHORS' CONTRIBUTION:

BS: Concept and design of the work and drafting of the article.

IUB: Analysis, interpretation of data, and critical revision of the article.

FAB: Acquisition of the data, critical analysis of the article for important intellectual content.

JM: Collection of the data and drafting of the work.

P: Analysis and interpretation of data.

All authors approved the final version of the manuscript to be published.

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