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Case Report Thoracic Surgery

A rare pathology in the neck: Hydatid cyst

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ABSTRACT

Neck cysts can be classified as congenital, infectious-inflammatory, and neoplastic. Hydatid disease is a parasitic infection caused by Echinococcus, is usually seen in the liver and lung and, is rare in the head and neck region even in endemic areas. If not treated, a life-threatening condition may be encountered. In this study, a case of hydatid cyst operated due to a cystic lesion with a diameter of approximately 8 cm in the neck was presented by reviewing the literature.

Keywords: Echinococcosis; hydatid disease; neck region.

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Hydatid cyst (HC) is a parasitic infection caused by tapeworm larvae called Echinococcus. It is more common in rural areas where livestock is engaged and affects both animals and humans. Transmission to humans is caused by foods contaminated with the feces of the definitive host animals such as dogs, wolves, and jackals or by direct contact or inhalation.

Humans and animals such as cattle, sheep, horses, and pigs are intermediary hosts. Echinococcus granulosus and multilocularis cause disease in humans. Although liver and lung involvement is the most common, it can be seen in all organs [1, 2]. HC in the neck is very rare and few cases are reported in the literature [3]. This study presents a case of HC that was referred to the Thoracic Surgery Department with the suspicion of extension of the cyst from the neck to the mediastinum which was to be operated on.

CASE REPORT

A 66-year-old female patient was referred to our outpatient clinic by the Department of Otorhinolaryngology because of a swelling in the neck region that may be associated with upper mediastinum. A smooth-circumscribed, soft-consistent cystic lesion with a diameter of approximately 8 cm, which was learned to grow gradually in the left neck region for about three years, was palpated (Fig. 1). The patient's general condition was good and her vital signs were stable. Her medical history included hypertension, diabetes, cerebrovascular disease, and cholecystectomy. With the preliminary diagnosis of vascular pathology, the superficial neck was evaluated by ultrasonography. No relationship was found with vascular structures, two adjacent cystic lesions were reported. The computed tomography (CT) scan of the neck and thorax demonstrated a regular cyst on the left side of the neck in the left supraclavicular area, measuring 8 cm in diameter and approximately 3.5 cm hypodense appearance in the adjacent area of the lesion (Fig. 2). Magnetic resonance imaging (MRI) of the neck and thorax showed an 8.5x6.5-cm cystic mass located at the left supraclavicular area, 4x2-cm lesion in the medial area adjacent to the lesion (hypointense in T1 sequence, heterogeneous hyperintense in T2 sequence, no significant contrast enhancement, cystic lesion in favor of benign pathologies) (Fig. 3).

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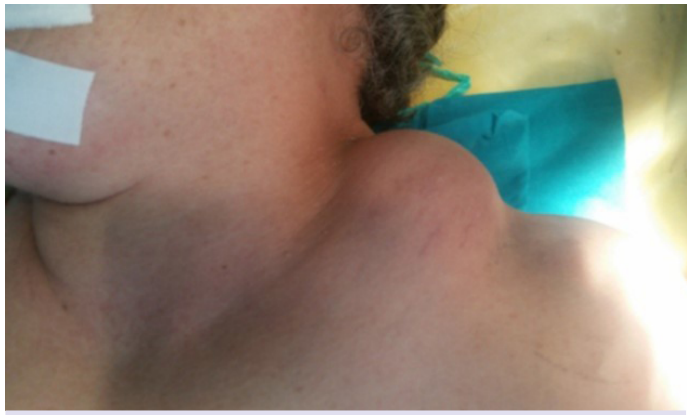

FIGURE 1. Mass in the left neck region.

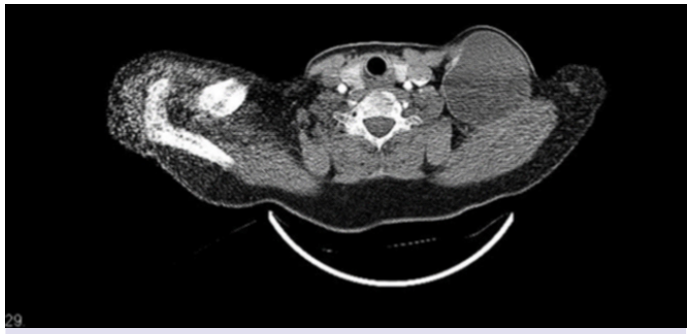

FIGURE 2. CT image.

The patient was operated in the supine position with a 10 cm incision through the lesion. Approximately 8 cm lesion was incised, clear yellow-colored cyst fluid was aspirated, cyst membranes were located and removed, and cyst wall was resected. A harder, white-colored 4x2 cm lesion in anteromedial was excised with blunt and sharp dissection (Fig. 4). Both lesions were in the neck region and there was no relationship with the mediastinum. Pathologic diagnosis was reported as hydatid cyst for both lesions. In the patient whose postoperative follow-up was not problematic, albendazole treatment was administered. No recurrence was observed in 1-year follow-up.

DISCUSSION

HC among neck masses is a rare disease even in endemic regions. Involvement of the neck region is seen in 1% of all echinococcal infections. In the literature, 12 cases have been reported in the isolated neck region and 30 cases in the posterolateral cervical region [3, 4]. This parasitic disease, which is common in endemic areas, is most commonly involved in the liver and lungs. Embryos emerging from echinococcal eggs entering the human body pass through

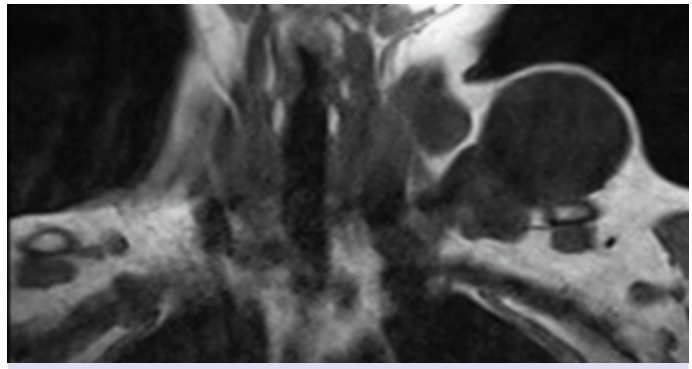

FIGURE 3. MR image, mediastinal extension suspected.

FIGURE 4. Surgical materials removed during the operation.

the hepatic sinusoid or pulmonary capillary barriers via blood and lymph; and pass into the systemic circulation, where they can affect all organs and structures [1, 2].

HC is usually asymptomatic; however, it may become symptomatic depending on its localization, size, and perforation. The patient's medical history is an important point in diagnosis. Physical examination findings and radiological examinations are beneficial. In particular, liver or lung involvement should be examined [4, 5]. In our case, liver or lung involvement was not detected as a result of radiological examinations. Imaging studies are useful for accurately identifying the cyst in addition to discovering whether other cysts are present in other organs. Ultrasound is the first-line method to

evaluate whether any neck mass is solid or cystic. CT and MRI are indicated to determine the relationships between the cyst and adjacent structures when it is unclear on ultrasound [6]. Although serological tests and percutaneous aspiration support the diagnosis, they do not make a definitive diagnosis. Direct hemagglutination, latex agglutination, immunoelectrophoresis, skin test, and ELISA, which are serological tests, are more significant in patient follow-up rather than diagnosis [4, 5]. In our case, serological tests were not studied because they were in preoperative period. In the case of Gul A. et al. [2], fine-needle aspiration biopsy was not performed due to the presence of HC in the differential diagnosis and the potential for allergic reactions, acute anaphylaxis, and spread of daughter vesicles.

The gold standard treatment in HC is surgical removal of the cyst as a whole. In some cases, subtotal cystectomy or resection of the roof of the cyst may be preferred [2, 3, 7]. In our patient, HC was considered due to the cyst fluid and cyst membranes detected following the intraoperative cyst incision. The definitive diagnosis was supported by histopathological examination after surgery. Hmidi et al. [7] covered the surgical area with pre-incision scolicidal solutions to prevent the spread of scolices due to accidental opening of the cyst. For high-risk and contaminated patients or to prevent recurrence, surgical treatment should be combined with medical treatment. Benzimidazole derivatives named albendazole and mebendazole are among the anthelmintic drugs used [2, 7].

Conclusion

When a mass is encountered in the neck, it should be kept in mind that HC may be diagnosed in countries like Turkiye. Atypically located HC is rarely found in the literature. Although the medical history is guiding, surgical resection should be performed for a definitive diagnosis.

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