

Primary Echinococcus Cyst of the Thyroid: A Case Report

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Abstract- Echinococcosis, although eradicated in many countries, is still widespread in communities where agriculture is dominant. Cystic hydatidosis is a significant public health problem in the regions with endemic echinococcosis. The hydatid cysts tend to form in the liver or lung, but may also be found in other organs of the body such as brain, heart, and bone, while thyroid gland involvement is rather rare. A 25 year old male presented with solitaire goiter. Laboratory tests and thyroid profile proved normal. Surgical exploration revealed hydatid cyst in the left lobe of the thyroid gland. Examination of the nodule showed it to be a solitary primary thyroid hydatid cyst.

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Introduction

Echinococcosis, although eradicated in many countries, is still widespread in agricultural communities and cystic hydatidosis is a significant public health problem in the regions where echinococcosis is endemic. In endemic areas, prevalence rates of %2-6 or higher have been recorded. The hydatid cysts associated with echinococcosis may be found in almost any part of the body, resulting either from primary inoculation or via secondary spread. The liver is affected in approximately two-thirds of the patients, the lungs in approximately %25 and the other organs including the brain muscle, kidney, bone, heart and pancreas are affected in a small portion of the patients. On the contrary, thyroid gland involvement is rather rare (1). Hydatid cysts are frequently seen in the Eastern and Central Anatolian regions of Turkey (2) A case of echinococcal cyst of the thyroid presenting as a single thyroid nodule, suspected to be thyroid cancer, is reported.

Case Reports

A 25 year old male presented to the surgical outpatient department, with a progressive swelling in front of the

lower part of the neck, over a period of one year. There was no history of dysphagia, dysphonia, or features suggestive of thyroid overactivity. The patient had never been hospitalized before this admission and had no history of other diseases. Clinical examination revealed a normotensive patient, with no features of hyperthyroidism. The local examination showed a left solitary thyroid nodule, measuring 3.0 x 4.0 cm. The nodule was firm in consistency, non-tender, not fixed to the surrounding structures, with no cervical lymphadenopathy

Results of routine laboratory tests were normal. Serum T3, T4 and thyroid stimulating (TSH) levels were within normal range. The nodule was 'cold' on thyroid scanning. Thyroid ultrasound and computed tomography showed well defined, circumscribed cystic masses measuring 35x30 mm in diameter in the left lobe, consistent with hydatid cyst (Figure 1). The right lobe was normal. Even after aspiration of 3 ml of clear fluid from the cyst, a residual lump was still palpable. During aspiration biopsy, the patient did not present a clinical picture of anaphylactic reaction. Cytological examination of the fluid revealed no cells in the aspirate. Hydatid cyst haemagglutinin (HA) antibody levels were strongly positive.

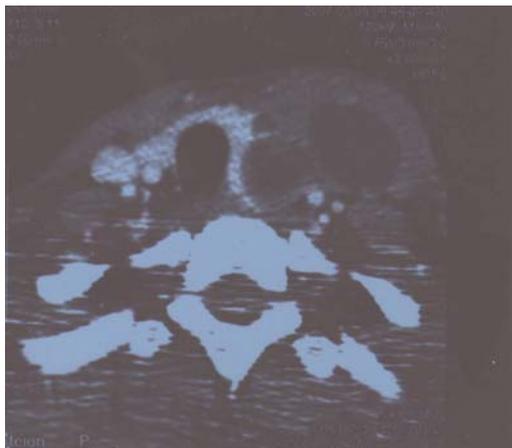


Figure 1. Cystic mass that measured 35x30 mm in the left lobe of the thyroid

The patient underwent a left hemithyroidectomy. The cut section of the specimen revealed it to be a hydatid cyst and the diagnosis was confirmed on histopathological examination (Figure 2). After the operation, he received albendazole treatment (400 mg/d) for 6 months. HA antibody level in the immediate post-operative period was positive, but became negative six months after the operation. Post-operative computerized tomography scans of head, thorax and abdomen showed no hydatid cysts in other organs of the patient.

Discussion

Hydatid cysts often affect the lung and liver but also rarely involves other organs such as the thyroid gland (3). More than one organ has been reported to be involved in 20-30% of cases.

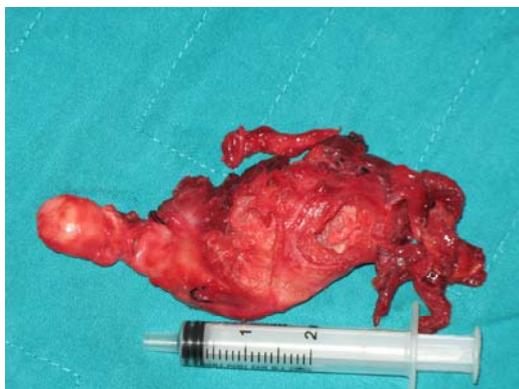


Figure 2. Removed thyroid left lobe and isthmus which includes hydatid cyst.

Hydatid cyst involvement of the thyroid gland is an extremely rare condition even in endemic areas (3,4). The cyst might remain clinically silent for a long period of time, presenting a slow growing rate (5). However, it may also suddenly increase in size after years of silence. As it increases in size, it may adhere to the surrounding structures, such as trachea, esophagus, carotid sheath, recurrent laryngeal nerve, and the strap muscles, similar to the thyroid carcinoma. In the subsequent stages, the patient may present with pressure symptoms and signs such as dyspnea, hoarseness or dysphagia (5). Paralysis of the vocal cord, as well as perforation of the cyst into the trachea with fatal results have also been recorded (6). As described above, the patient had no history of dysphagia, or dysphonia.

Hydatid cyst of the thyroid is generally the primary focus of the infestation. Only a few patients were reported to have had concomitant hydatid cyst in the liver or another organ with thyroid (7,8).

Parasitic embryo can enter the systemic circulation and lodge in the thyroid gland after either bypassing (primary type) or passing through (secondary type) the hepatic microcirculation (9). Our case is an example of the primary type of the disease.

Diagnosis of hydatid disease has been greatly facilitated with ultrasonography, computerized tomography (CT), and magnetic resonance imaging (MRI). Although inhomogeneous appearance of cystic echinococcosis makes radiological diagnosis difficult, the definitive diagnosis for most cases of hydatid cyst is still possible through the aforementioned imaging methods (10,11). Serologic examinations have the problems of low diagnostic sensitivity and specificity and have only limited use (12). In this case, ultrasonography and CT were performed to establish the diagnosis preoperatively. The routine use of aspiration cytology in the workup of single thyroid nodules may complicate the further management of patients with hydatid cyst of thyroid including the patient reported here; anaphylaxis and dissemination may occur and technical difficulties may be experienced during the operation (13).

Nodular goiter is frequently encountered in Turkey, which has many endemic regions. This case increases the index of suspicion about the presence of hydatid cyst within these nodules. This possibility should not be overlooked during needle aspiration and extreme care

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should be taken to prevent possible complications. If aspiration is required, it should be performed under ultrasonography or tomography guidance (2).

It is generally accepted that the treatment of choice for hydatid disease of thyroid is surgical excision. However, it is recommended that small cysts confined to the thyroid be treated by subtotal lobectomy. The use of chemotherapeutic agents (e.g mebendazole, albendazole and preziuantel) either as adjunctive or as definitive therapy for hydatid disease is most affective and the results of prospective trials are awaited with interest (14).

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