

A Case of Cystic Echinococcosis in Thyroid Gland: A Very Rare Localisation of Echinococcosis Infection

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Although echinococcosis is not rare in Turkey, the location of a hydatid cyst in the thyroid is unusual. It usually presents itself as a solitary nodule, which may mimic a thyroid nodule. The routine use of aspiration cytology in the workup of cases of single thyroid nodules may complicate the further management of patients with a hydatid cyst of thyroid; anaphylaxis and dissemination may occur and technical difficulties may be experienced during operation. A case of echinococcal cyst of the thyroid presented as a single thyroid nodule, suspected to be a colloidal cyst, is reported.

Key words: Thyroid nodule, echinococcosis

Introduction

Echinococcus is a parasite belonging to the Cestod class. Four subgroups of Echinococcus have been shown. E.Granulosus, E.Multilocularis (E.Alveolaris), E. Oligoarthus and E. Vogeli. E Granulosus has been known to be responsible for multilocular cysts and E.Multilocularis for alveolar echinococcosis (1, 2).

This parasitic disease is an important health problem mostly in rural areas where people earn their living by farming and where prophylactic health care support is insufficient. E.Granulosus is widely distributed wherever sheep, cattle and hogs are associated with dogs. Australia, Africa, New Zealand, Pakistan, Turkey, Central Europe, Spain, Mexico and Argentina are the places where these

parasites most commonly occur. In Turkey, the most frequent cases of echinococcosis have been reported in East Anatolia (1-5).

The eggs of E.granulosus pass in an infected animal's feces and are ingested by practically any mammal from contaminated food. When viable eggs are swallowed and pass down the digestive tract, they hatch at the duodenal level and the Embryo- Oncospher is released. Later, the embryo is carried by the blood and lodges, most commonly in the right lobe of the liver. It can also travel to any site of the body (6). In descending order of occurrence, it can be seen in the lungs, brain, orbital cavity, parotis gland, heart, spleen, kidneys, genital organs, bone and breasts (1). Thyroid is one of the very rare sites for echinococ cysts. In a report from Turkey, it has been shown that the occurrence in the thyroid gland is about 0.5% among all echinococcosis cases (7).

Approximately 75% of the occurrences may be found as solitary cysts and can grow to 10 cm in diameter without giving any symptom for years. It may metastasize great distances throughout the body, being transported by the blood. The embryo

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proceeds to vacuolate, to develop its germinative layer with many viable heads (solices), and to accumulate liquid within the cavity. The cyst contains foreign proteins and is extremely toxic for the host. Rupture of a cyst may cause anaphylactic shock or may set free a large number of solices which may become implanted elsewhere and develop secondary cysts (1, 7)

Case Report

A twelve-year old girl was admitted to our pediatric endocrinology department complaining of a mass in the medial part of her thyroid lobe. She was living in a rural part of the Inner Aegean Region, West Anatolia. Initial physical examination showed a solitary thyroid nodule approximately 4.5 cm in diameter. Routine thyroid function tests and a thyroid ultrasonography were performed. The thyroid function tests were euthyroid while the ultrasonographic examination revealed a 5x5 cm liquid filled solitary thyroid cyst. For further evaluation and treatment, fine-needle aspiration (FNA) was performed. During the procedure, approximately 10 cc of colorless, water-like liquid was aspirated. This liquid material was sent to the Pathology laboratory immediately. The patient was discharged on the same day, no treatment was planned until having the FNA results.

The same evening, the patient was admitted to the Emergency Service with a swollen, painful, red-dened mass on the same side of her neck where the cyst was aspirated. She was stabilized for the evening and soon after, next morning the ultrasonography was repeated. This time, the ultrasonographic diagnosis was "Ruptured Solitary Hydatid Cyst" (Figure 1). The same day, a computerised tomography (CT) of the area confirmed the diagnosis (Figure 2). Further a total body CT revealed an additional cyst, greater than 10x10 cm, located at the right lobe of the liver (figure 3).

No medication was prescribed for the mass at her neck, and it has subsided spontaneously during the evening. She was immediately transferred to the Pediatric Surgery Clinic for excision of the cyst and cleaning of the infected area. Also

Albendazole 15 mg/kg/day divided in three doses, was begun orally for systemic treatment. Also, another surgical treatment was planned for the cyst in the liver while she was continuing oral Albendazole treatment.



Figure 1

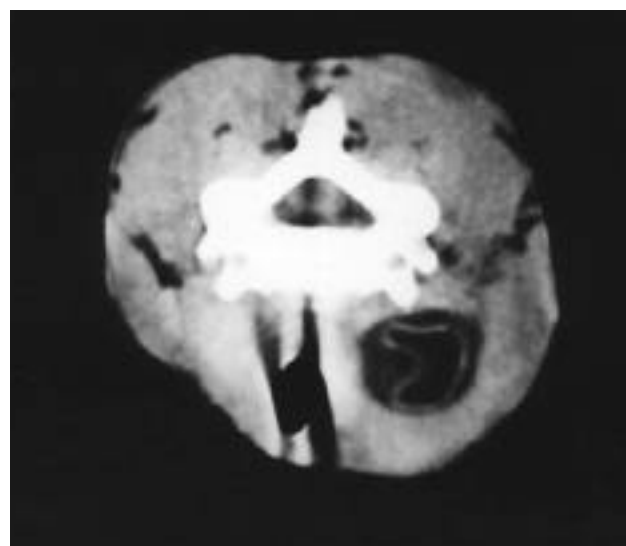


Figure 2

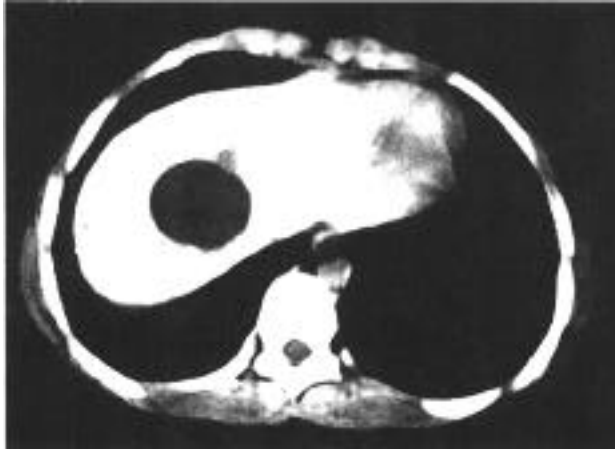


Figure 3

Discussion

There are several numbers of cases reported of E. Granulosus localised in the thyroid gland. Those cases are from all over the world, including Central europe, Russia, Africa, and North and South America (8).

Although echinococcosis is not rare in Turkey, the location of hydatid cysts in the thyroid is unusual (3, 4, 5, 7). The overall incidence is 0.51% for Turkey as reported by Yerci Ö. et al, in 1996 (7). It usually presents itself as a solitary nodule which may mimic thyroid carcinoma. What surprised us in our case was that E. Granulosus imitated a simple colloidal thyroid cyst. All of the cases that have been published were about E. Granulosus cysts diagnosed as thyroid cancers and most of them were misdiagnosed until this was corrected by reports from the pathology laboratoies (9). In this case, ultrasonographic findings should have lead us to accorrect diagnosis before FNA. But looking at ultrasonography, if the possibility of E. Granulosus is not in mind, there is always a chance for misdiagnosis. The thyroid cysts of different etiologies must be taken into account at the differential diagnosis (6, 9, 10).

The routine use of aspiration cytology in the workup of cases of single thyroid nodules may complicate further management of patients with a hydatid cyst. As with the patient we had, anaphylaxis and dissemination may occur and technical difficulties may be experienced during operation (6).

We conclude that, although modern imaging techniques have allowed diagnostic improvements, preoperative diagnosis is still difficult in the Echinococcus cysts of the thyroid. Because the symptoms may not be obvious, sometimes even until the size of the cyst is approximately 10 cm in diameter, more reliable tecniques must be developed and used in high risk populations.

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