

## Hydatid cyst of thyroid: A case report

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### ABSTRACT

**Background:** Primary hydatidosis located in the thyroid is an infrequent finding; even in endemic regions, however, a few cases of secondary hydatid cyst of thyroid have been reported in literatures.

**Patient:** A 17-year old female was admitted with history of a slow growing painless thyroid nodule for the last two years. Pre-operative investigations, including thyroid scanning and aspiration of the nodule, did not help in establishing the diagnosis that was later confirmed by histological examination. Histopathological examination of the specimen revealed a hydatid cyst with daughter cyst.

**Conclusion:** In endemic areas such as Iran, any growing mass or tumor should arouse suspicion of hydatid disease.

**Keywords:** *Echinococcosis, Thyroid nodule.*

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### INTRODUCTION

Hydatidosis is known since Hippocrates (1). Echinococcosis or hydatid disease is caused by the tape worm, *Echinococcus granulosus*. The life cycle of *E. granulosus* is well described (1). Echinococcosis has its highest prevalence in countries, where the common intermediate hosts, sheep and cattle, are raised (such as Middle East, Central Europe, Australia and South America)(2). Hydatid disease mainly affects the pulmonary and digestive systems (3). Liver is the most frequently involved organ (75%), followed by the lung (15%) (2).

Involvement of the thyroid gland by hydatid disease is a rare entity. Even amongst patients

suffering from the hydatid disease of the liver and lungs, echinococcosis of the thyroid gland occurs only in 1-2% (4). In the present study we explain our experience with a patient suffering from hydatid cyst of thyroid.

### PATIENT

A 17-year old female was admitted with history of a slow growing painless thyroid nodule for the last two years.

On physical examination, a nontender, soft, and cystic mass was palpated over the left lobe of thyroid. It measured 5×8cm. There was no history of trauma in the anterior neck region. No history of fever and weight loss and other thyroid functions related signs or symptoms were described.

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She was treated with a course of oral levothyroxin as a possible benign thyroid mass.

Investigations revealed that complete blood count, and thyroid function tests were within normal limits. Chest X-ray was normal. Thyroid scan demonstrated a cold nodule in the left lobe of thyroid gland (figure 1). Fine needle aspiration of the soft tissue mass was performed and revealed a clear liquid. Laboratory examination showed daughter cyst.

Immediately after fine-needle aspiration, the patient underwent surgery for excision of the cyst. A total lobectomy of left lobe of thyroid was carried out and specimen was sent for pathologic examination. Gross examination of the thyroid lobe showed that it was a cystic soft mass, measuring 5×5×8 cm. Histopathological examination of the specimen revealed a hydatid cyst with daughter cyst.

After operation, ultrasonography and CT scan of the abdomen was performed, however, nothing was noted. The patient was then treated with 3 courses of albendazole. She enjoyed healthy life thereafter during a 12-month follow up.

## DISCUSSION

Hydatid disease or echinococcosis is endemic in most areas of Iran (5). The diagnosis is fairly easy in a majority of cases; however the location of a hydatid cyst in the thyroid is a very rare entity (6,7).

It presents as a solitary nodule, which may mimic a thyroid cystic nodule (8-10). Findings on clinical examination are usually those of a thyroid cold nodule, and diagnosis could be verified by detection of other sites for the lesion, positive results of immunology tests (11) or often only after histopathological studies.

Clinically, it is a part of the differential diagnosis of benign neoplastic thyroid lesions. Although modern imaging techniques improve the diagnosis, preoperative diagnosis is still difficult.

The routine use of aspiration cytology in the work up of cases of single thyroid nodules may complicate the further management of patients with a hydatid cyst of the thyroid; anaphylaxis and dissemination may occur and technical difficulties may be experienced during operation (12-14). In the present study, however, FNAC did not establish the diagnosis which was later ascertained by histological examination.

Surgery, hemithyroidectomy, is effective for this uncommon thyroid cyst. Postoperative treatment with albendazole resulted in fewer recurrences than expected (15). Apparently albendazole is effective for the treatment of inoperable cases of hydatidosis (16,17).

The new approach is intracystic injection of albendazole, however, its efficacy is to be determined (18).

In conclusion, echinococcal disease should be considered in the differential diagnosis of every cystic mass in any anatomic location, especially, in endemic areas such as Iran.

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