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Hydatid Cyst in Thyroid Gland: A Case Report

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Hydatid disease, the parasitic infestation caused by the cestode, *Echinococcus granulosus* involves mainly the liver and the lungs. Other locations of the infestation are rare. Here in this paper we reported an 18 years old young man with simultaneous liver, pulmonary, anterior abdominal wall and thyroid hydatid cyst. The patient applied with swelling of thyroid gland exceeding for the last two years and dysphagia for a year. The ultrasound and computed tomography of the thyroid gland revealed two cystic masses with 35 mm in diameter in the left lobe and 30 mm in diameter in the isthmus of the gland, consisting with hydatid cysts. He had also concomitant hydatid cysts of the liver, anterior abdominal wall and left lung. Patient underwent surgery and hemi-thyroidectomy with isthmusectomy, and total excision for anterior abdominal wall cyst was carried out. Histopathological examination confirmed the diagnosis of hydatid cyst.

Key Words: Hydatid cyst, Thyroid, Abdominal wall, Liver, Lung

Troid Bezi Hidatik Kisti: Vaka Sunumu

Hidatik kist hastalığı, *Echinococcus granulosus* paraziti tarafından oluşturulan ve genelde karaciğer ve akciğeri tutan bir hastalıktır. Diğer lokalizasyonlar nadirdir. Biz burada, 18 yaşında, karaciğer, akciğer, abdominal duvar ve triode yerleşimli kistlerle karakterize bir kist hidatik vakasını sunmayı amaçladık. Vaka, iki yıldan beri mevcut olan boğazda ağrısız şişlik şikayetiyle başvurmuş olup, yapılan boyun tomografisi ve ultrasonografisi, sol lob ve istmusta, sırasıyla 35 ve 30 mm.lik kist hidatikle uyumlu kistleri ortaya koymuştur. Yapılan ek tetkilerle, karaciğer, abdominal duvar ve akciğer kistleri de ortaya konulmuş olup, hastaya troid sol lobektomi ve istmusektomi ve abdominal duvar kisti için de total eksizyon ameliyatları ayni seansda uygulanmıştır. Histopatoljik tanı kist hidatikle uyumlu gelmiştir.

Anahtar Kelimeler: Kist hidatik, Karaciğer, Troid, Abdominal duvar, Akciğer

Hydatid disease is a zoonotic infestation caused by *Echinococcus granulosus* and *Echinococcus multilocularis*. Hydatid disease of the thyroid is extremely rare even in countries where the disease is endemic.[1,2] It usually presents as a solitary nodule of the thyroid gland reflecting the primary type of the disease. To our knowledge, there are only a few patients reported to have concomitant hydatid cyst in the liver with another organ or tissue with thyroid.[3,4] Therefor, we reported the case with simultaneous liver, lung, anterior abdominal wall and thyroid Echinococcosis as a rare condition.

THE CASE

An 18 years old man presented with swelling of the thyroid gland over two years and dysphagia over one year. Physical examination revealed a solitary thyroid nodule on the left lobe of the thyroid gland that was approximately 3 cm in diameter. The nodule was firm in consistency, non tender and not fixed to the surrounding structures. Serum T3, T4 and thyroid stimulating (TSH) levels were within normal range. Thyroid ultrasound and computed tomography showed well defined, circumscribed cystic masses measuring 35 mm in diameter in the left lobe and 30 mm in diameter in the isthmus, consistent with hydatid cysts. The nodule in the left lobe on computed tomography (CT) is shown in Figure 1. He also had concomitant hydatid cyst of the liver, anterior abdominal wall and left lung. The patient underwent surgery and hemi-thyroidectomy with isthmusectomy was performed (Figure 2). The right

lobe was found to be normal. We also performed intraoperative ultrasonography to eliminate possible microcysts on the right side of the gland. Anterior abdominal wall cyst which was placed in the right rectus abdominis muscle (Figure 3) was totally removed during the same operation. Histopathological examination confirmed the diagnosis of hydatid cyst. As the CT appearance of the liver cyst was calcified, surgery was not considered for this cyst. Pulmonary hydatid cyst was considered to be managed surgically with a second operation. The patient's postoperative course was uneventful and he was discharged on the fourth day of the operation. After the operation, he received albendazole treatment (400mg/d) for 2 months.

Figure 1. Cystic mass that measured 35 mm in the left lobe of the thyroid that pushes the trachea to the left.

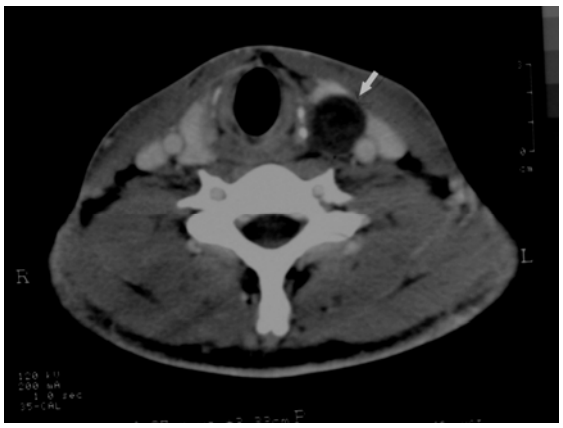
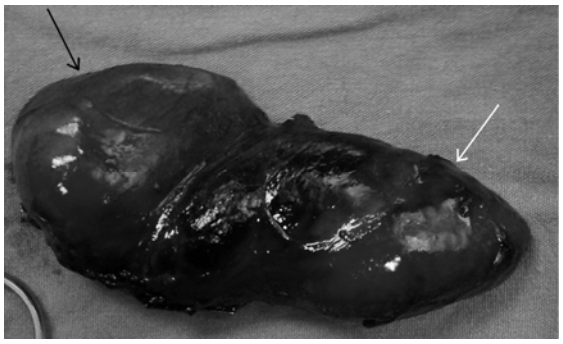


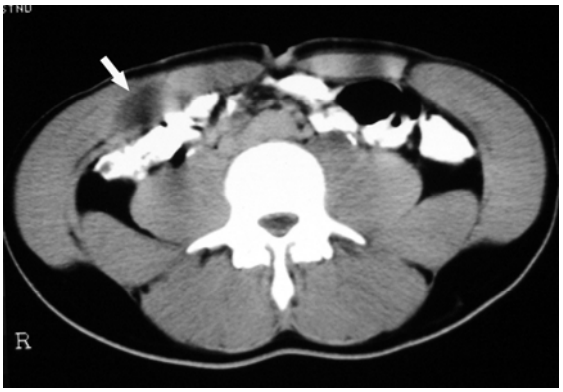
Figure 2. Removed thyroid left lobe (black arrow) and isthmus (white arrow) which includes hydatid cyst.



DISCUSSION

Hydatid cyst involvement of the thyroid gland is an extremely rare condition even in endemic areas.[1,2] The cyst might remain clinically silent for a long time period, presenting a slow growing rate.[5] It may 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, in a similar manner with thyroid carcinoma. After this, the patient may present with pressure symptoms and signs such as dyspnea, hoarseness or dysphagia.[5] Paralysis of the vocal cord has been noted in several cases.[6] Perforation of the cyst into the trachea with fatal results has also been recorded.[6] As described, our patient had symptoms after a long silent period and experienced dysphagia when the cysts grew up considerably.

Figure 3. Anterior abdominal wall cyst in the right rectus abdominis muscle.



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.[3,4] 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.[7] Our case is an example of the secondary type of the disease and harbors simultaneous multiorgan involvement, including anterior abdominal wall as another rare site of hydatid disease.[8] In this regard, it is one of the unique cases in the literature.

Diagnosis of hydatid disease has been greatly facilitated with ultrasonography, CT and magnetic resonance imaging (MRI). Although inhomogeneous appearance of cystic echinococcosis makes its radiologic diagnosis difficult, the definitive diagnosis for most cases of hydatid cyst is possible via such imaging methods.[9,10] Serologic examinations have the problems of low diagnostic sensitivity and specificity and have only limited use.[8] In this case, ultrasonography and CT were performed to establish

the diagnosis preoperatively. Multiorgan involvement including liver could be helpful in the differential diagnosis of thyroid hydatid cyst, reminding its strong possibility. For the possibility of centrally located microcysts in the right thyroid lobe which may be inconspicuous by preoperative imagines and palpation at the surgery, we performed intraoperative high resolution ultrasonography. Intraoperative utrasonographic evaluation for hepatic hydatidosis is a well known technique that is widely used.[11] The procedure can also be beneficial for surgery of thyroid hydatidosis as suggested in this case.

Management of thyroid hydatid cyst is surgical and complete excision should be the procedure of choice. We performed hemi-thyroidectomy and isthmusectomy to serve the purpose. However, authors also recommend subtotal thyroidectomy especially when cyst is small and confined to the thyroid gland.[5,12] Nevertheless, the surgeon should keep in mind that enucleation alone may be associated with local relapse. The plan of cleavage most likely to be entered is that between pseudocyst and ectocyst and it becomes difficult to avoid rupture of the ectocyst. Moreover, daughter cysts could remain in the adjoining thyroid tissue.[1]

As a result, the surgeon must be aware of the possibility of hydatid disease during the evaluation of thyroid nodules, particularly in endemic regions. Although hydatic cyst of the thyroid is usually single and primary, simultaneous multiorgan involvement including another unusual site is also possible, as in our case.

REFERENCES

1. Arunabha, Sharma AK, Sarda AK. Hydatid disease of the thyroid gland (a case report). J Postgrad Med 1989;35:230-1.
2. Misgar MS, Ahmed Mir M, Narboo T, Rashid PA. Primary echinococcus cyst of the thyroid gland. Int Surg 1977;62:600.
3. Al-Qassab KH, Abdul-Rahman H, Safar S. Hydatid disease of the thyroid. Int Surg 1982;67:435-6.
4. Sodhani P, Gupta S, Jain S. Unusual presentation of disseminated echinococcosis with thyroid involvement: diagnosis by fine needle aspiration cytology in a clinically unsuspected case. Acta Cytol 2002;46:75-6.
5. Gokce C, Patiroglu T, Aksehirli S, Durak A, Kelestimur F. Hydatic cyst in the thyroid gland diagnosed by fine-needle aspiration biopsy. Thyroid 2003;13:987-9.
6. Chandara T, Prakash A. A case of hydatid cyst of thyroid. Br J Surg 1965;52:235-7.
7. Kiresi DA, Karabacakoglu K, Odev K, Karaoke S. Uncommon locations of hydatid cysts. Acta Radiol 2003;44:622-36.
8. Prousalidis J, Tzardinoglou K, Sgouradis L, Katsohis C, Aletras H. Uncommon sites of Hydatid Disease. World J Surg 1998;22:17-22.
9. Mcmanus DP, Zhang W, Li J, Bartley PB. Echinococcosis. Lancet 2003 ;362:1295-304.
10. Safioleas M, Misiakos E, Manti C. Surgical treatment for splenic hydatidosis.World J Surg 1997:374-8.
11. Dervisoglu A, Erzurumlu K, Tac K, Arslan A, Gursel M, Hokelek M. Should intraoperative ultrasonography be used routinely in hepatic hydatidosis. Hepatogastroenterology 2002;49:1326-8.
12. Hamamci EO, Besim H, Korkmaz A. Unusual locations of hydatid disease and surgical approach. ANZ J Surg 2004;74:356-60.

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