

An unusual cause of hoarseness: Hydatid cyst of the thyroid

Oksuz, S.¹, Pektas, E.¹, Yavuz, M.², Aksungur, N.², Cayir, Y.^{1*} and Akcay, M.N.²

¹Ataturk University, Faculty of Medicine, Department of Family Medicine, Erzurum, Turkey

²Ataturk University, Faculty of Medicine, Department of General Surgery, Erzurum, Turkey

*Correspondence author email: dryasemincayir@yahoo.com

Received 18 June 2013; received in revised form 6 August 2013; accepted 8 August 2013

Abstract. Hydatid cyst is a parasitic infestation that is distributed world-wide. It may be found in nearly any part of the body, most often in the liver and the lungs, but occasionally in other structures such as the thyroid gland. Thyroid gland is very rarely involved by this parasitic infection even in Turkey where the echinococcal disease is endemic. In this article we report a very rarely encountered case of thyroid cyst revealed by hoarseness, and underwent subtotal thyroidectomy and diagnosed as primary hydatid cyst disease by histological studies.

INTRODUCTION

Hydatid disease is a zoonotic infestation caused by *Echinococcus granulosus* and *Echinococcus multilocularis* subclass of cestode with worldwide distribution, especially in Australia, South America, the Middle East, South Africa, Eastern Europe, and the Mediterranean region. It is common parasitic infestation in sheep and cattle-rearing regions of East and South-East Anatolian parts of Turkey (Polat *et al.*, 2009; Geramizadeh, 2013). Definitive hosts are normally carnivores such as dogs and other canidae while intermediate hosts are usually herbivores such as sheep, goats and cattle. Humans function as accidental hosts, because they are usually a “dead end” for the parasitic infection cycle.

The parasite eggs are ingested by an intermediate host and hatch in the small intestine and releasing oncospheres that penetrate the intestinal wall and move through circulatory system such as portal venous and lymphatic system into liver and lungs, creating the lesions of hydatid cyst disease. The oncosphere develops into a cyst once it has invaded these organs after passing the barriers of hepatic sinusoids and

pulmonary capillary (Mogmihi *et al.*, 2009; Avcu *et al.*, 2010). Afterwards the cyst enlarges slowly by creating protoscolices and daughter cysts within the cyst. Hydatid cyst disease very rarely occurs in tissues like thyroid (Capoglu *et al.*, 2002; Yilmaz *et al.*, 2013). In this article, a rare case is presented with hydatid cyst disease of thyroid revealed by hoarseness.

CASE REPORT

A 23 year-old man, presented with hoarseness, which was noticed one month before his presentation. On examination, a well-circumscribed, approximately 4.0x3.0 cm mass was observed in the left lobe of thyroid which was non-tender on palpitation. No other physical abnormalities were noted. The results of the thyroid function tests as well as routine laboratory tests were normal. An ultrasound study revealed a larger left thyroid lobe with 49x36 mm cystic nodule including high density content. Multinodular goiter was considered as a cause of hoarseness. Patient underwent subtotal thyroidectomy; histopathologic examination diagnosed and confirmed the

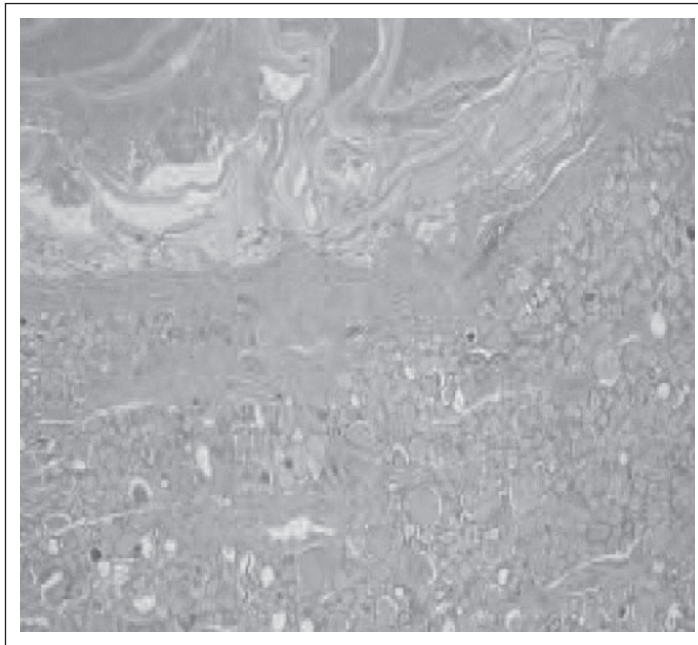


Figure 1. The pathological image of the thyroid tissue with cyst hydatid

hydatid nature of the thyroid cyst (Figure 1). Histopathological examination of this field cystic containing fibrillar material, membrane fragments which were stained with PAS, and degenerate scolexes were seen. Positive reaction for indirect hemagglutination test was observed but nonetheless, there was no evidence of any other focus of hydatid disease. After the surgery, he received albendazole treatment (400mg/day) for 2 months. The repeated examination showed no recurrence of the hydatid disease for 3 months postoperative period.

DISCUSSION

Hydatid cyst disease tends mostly to form in the liver and lung, other organs of the body including brain, heart, bones, muscle, kidney, and pancreas may also be rarely affected. Invasion of the thyroid gland by a hydatid cyst is very rare. Review of the literature has found very few cases of isolated cystic echinococcosis of the thyroid gland. Thyroid tissue involvement has been reported in % 1-2 of lung or liver hydatid disease cases

(Kars *et al.*, 1990; Rauhofer *et al.*, 2003). In our case the primary focus was thyroid tissue and there was no evidence of any other organs of hydatid cyst disease.

Hydatid cyst disease could be asymptomatic however depending on the location and size of the cyst in the body, the patient may present pressure symptoms (Bouckaert *et al.*, 2000). Our patient was admitted with hoarseness for a month because of the cyst pressure to vocal cords.

In order to diagnose a patient with hydatid cyst disease, a combination of tools that involve imaging techniques, histopathology and/or nucleic acid detection, aspiration must be used and serology (Bouckaert *et al.*, 2000). In our case germinal membranes and daughter vesicles couldn't be visualized by imaging techniques; so he was diagnosed by histopathologic and serologic examinations.

The treatment of thyroid hydatid cyst is surgical. Echinococcal cysts should be radically removed. The aim of surgical treatment is complete excision of echinococcal cyst by preventing the spread of the cyst. During the operation case should be exercised to avoid the risk of spread of infestation by the fact that the cyst may

rupture, and thus the development of anaphylaxis. The patients need long-term follow up postoperative observation (Zulfikaroglu *et al.*, 2008). In our case postoperative complication didn't occur and relapse wasn't observed on repeated examinations during a 3 months period.

Usual causes of hoarseness may be due to pharyngitis, upper respiratory tract infections, goiter, smoking and trauma (Roy *et al.*, 2005). As in our case it must be remembered that a patient presented with hoarseness may be a thyroid hydatid cyst disease.

REFERENCES

- Avcu, S., Unal, O., Kotan, C., Ozturk, M. & Ozen, O. (2010). Submandibular and thyroid gland involvement of hydatid cysts: a very rare association with percutaneous treatment. *Diagnostic and Interventional Radiology* **16**: 251-254.
- Bouckaert, N.M., Raubenheimer, E.J. & Jacobs, F.J. (2000). Maxillofacial hydatid cysts. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology* **89**: 338-342.
- Capoglu, I., Unuvar, N., Erdogan, F., Yilmaz, O. & Caydere, M. (2002). A hydatid cyst of the thyroid gland. *Journal of International Medical Research* **30**: 206-209.
- Geramizadeh, B. (2013) Unusual locations of hydatid cyst, a report from Iran. *The Iranian Journal of Medical Sciences* **38**: 2-14.
- Kars, H.Z., Hekimoglu, B. & Cepoglu, C. (1990). Spinal epidural hydatid cyst: radiological and ultrasonographical workup of a case. *European Journal of Radiology* **11**: 212-214.
- Moghimi, M., Kamrava, S.K., Asghari, A.M., Heshmatzade, B.A., Jalessi, M, Naraghi, M.M. & Ehteshamia, A.E. (2009). Primary echinococcal cyst in the thyroid gland: a case report from Iran. *The Journal of Infection in Developing Countries* **22**: 732-734.
- Polat, P. & Atamanalp, S.S. (2009). Hepatic hydatid disease: Radiographics findings. *The Eurasian Journal of Medicine* **41**: 49-55.
- Rauhofer, U., Prager, G., Hörmann, M., Auer, H., Kaserer, K. & Niederle, B. (2003). Cystic echinococcosis of the thyroid gland in children and adults. *Thyroid* **13**: 497-502.
- Roy, N., Merrill, R.M., Gray, S.D. & Smith, E.M. (2005). Voice disorders in the general population: prevalence, risk factors, and occupational impact. *Laryngoscope* **115**: 1988-1995.
- Yilmaz, M., Akbulut, S., Sogutlu, G., Arabaci, E. & Kayaalp, C. (2013). Hydatid cyst of the thyroid gland: report of three cases. *Surgery Today* **43**: 937-941.
- Zulfikaroglu, B., Ozalp, N., Keskek, M. & Koc, M. (2008). Primary echinococcal cyst of the thyroid: report of a case. *Surgery Today* **38**: 833-835.