Primary Hydatid Cyst of The Thyroid Gland and Other Organ Localizations of The Disease

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PRIMER TİROİD KİSTHİDATİĞİ VE HID ATİK HASTALIĞIN DİĞER ORGAN YERLEŞİMLERİ

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SUMMARY

Hydatid disease of the thyroid gland is a very rare condition. So far, a total of almost 165 published cases has been encountered in the world literature. Twenty-one cases have also thus far been reported from Turkey. Such a case of intrathyrotdal hydatid cyst found unexpectedly during operation among the 759 patients, who underwent thyroid surgery between 1983 and 1989, has been presented herein.

Furthermore, the records of the surgically treated 124 patients with hydatid disease in the same period were investigated with respect to the organ localizations. Single organ involvement was found in 114 patients (92 per cent) and mut-tiorgan localization was established in ten (8 per-cent). The liver was the most affected site among the hydatid cyst cases (86.2 per cent). Involve-ment of the liver and spleen together was found in four cases (3.2 per cent). Besides, as a rare localization, we found one case in the pancreas, one in the anterior abdominal wall, one in the right inguinal area, one in thigh, one in the paro-tid gland and one below-mentioned case with intrathyroidal hydatid disease.

Key Words: Hydatid cyst, Thyroid gland.

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ÖZET

Tiroidde kist hidatiğin yerleşimi oldukça nadirdir. Literatürde bildirilen vaka saytsı 165' den fazla değildir. Türkiye de bildirilen vaka sayı-sı ise 21'dir. Kliniğimizde 1983-1989, yıllan ora-sında ameliyat edilen 759 noduler goitre vakası-nın birinde peroperaluar tespit edilen kist hidatik vakası takdim edildi.

Bu vesile ile kliniğimizde aynı dönemde cerrahi tedavi uygulanan 124 kist hidatik vakasın-da kistin yerleşim yerleri retrospektif olarak araş-tınldt. 114 (%92) vakada tek organ tutulumu, 10 vakada ı%3) birden fazla organ tutulumu tespit ettik. Karaciğer 107 (%86.2), karaciğer ile birlik-te dalak 4 (%3.2) vakada tutulmuştu. Nadir to-kalizasyon olarak birer vaka, pankreas, karın ön duvarı, inguinal bölge, uyluk, parotis ve tiroidde tespit etttik.

Anahtar Kelimeler: Hidatik kist, tirokl gland.

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Hydatid cyst has been a well-known disease since the Hippocrates Era. Though it is encountered particularly in the South America. Middle East. Far East and Mediterranean countries, it may be seen nowadays in almost every part of the world because of the travelling facilities (1,3,6,9, 12,17,18,21,25). Echinococcus granulosus may be found in all viscera, however, mostly in the liver and lungs (1,4,5,6,12,14,17). Thyroid gland involvement, neverthless, is a very uncommon situation even in the endemic areas (1,6,7,8,12,18,21). Number of the cases with hydatid disease of the thyroid gland is not more than 165 in the literature (1,9,12,16). In addition, twenty-one cases, reported from Turkey, have been encountered (1,3,12,13,16,20). In this article, a case of hydatid cyst of the thyroid gland found operatively among the 759 patients, who underwent surgery for nodular goiter between 1983 and 1989 in our clinic, has been revealed taking the other localization sites of the disease into consideration in the surgically treated 124 patients with hydatidosis.

CASE REPORT

H.T., a 54 year-old housewife, was admitted to the clinic for nodular goiter on 30 December, 1986 (Protocol No. of 34389). Her major complaint is a swelling in front of the neck. In the physical examination, a mobile and moderately hard nodule. 4x4x3 cm in diameter, was palpated by the swallowing manouver just on the right anterior side of the neck. A hypofunctioning nodule, that had invaded nearly entire right lobe of the gland, was detected on thyroid scan. Left lobe seemed to have non-homogenous activation without any nodule (Figure-1). The blood level of free thyroxin was 11.3 pmol/L (N:9.4-25.0 pm/L) and free triiodothyronine was 3.0 pmoi/L (N:2.5/7.5 pmol/L). Other laboratory findings and chest X-ray were all normal.

The patient underwent surgery for cold nodule. During operation, it was seen that the right lobe of the gland had been invaded by a cystic lesion. 4x4x3 cm in diameter. The lesion had a different structure in comparison with a thyroid nodule. When a white, membrane-like structure similar to the germinative membrane was noticed, the diagnosis of hydatid cyst

Figure-1. A hypofunctioning nodule in the right lobe seen on thyroid scan.

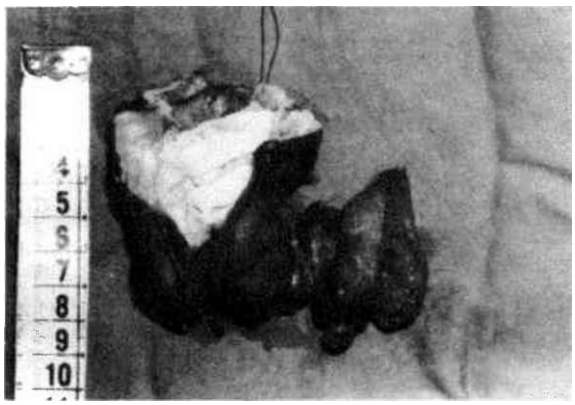

Figure-2, Macroscopic appearance of the specimen removed from thyroid gland. Hydatid cyst has completely invaded the right lobe.

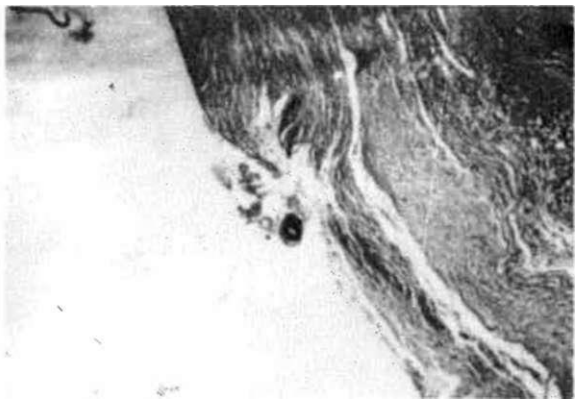

Figure-3. Microscopic appearance of the external layer of the thyroidal hydatid cyst.

was definitely made. Then, the fluid was aspirated and the cyst was evacuated. Sodium chlorure, at the concentration of 3 per cent, was given into the cystic cavity as a scolicidal agent. Soaked sponges with 3 per cent sodium chlorure were used in order to prevent the adjacent tissues from contamination. Later on, right total and left subtotal thyroidectomy was performed (Figure 2). Hydatid cyst of the thyroid gland and nodular hyperplasia were, then, reported as the certain pathologic diagnosis by the Pathology Department of the Numune Hospital (Path.No.46/ **1987)** (Figure-3).

The patient was postoperatively examined for the other probable localizations of the disease. There was no more pathological finding but renal calculi in the abdominal ultrasonography. Only moderate oedema was noticed in the upper and lower skin flaps in the postoperative course. She was discharged on the seventh postoperative day without further complications.

Apart from the case mentioned above, the hospital records of the 124 patients who had undergone surgery for hydatid disease at the same clinic between

Table I

Distribution of the Hydatid Cyst Cases With Respect to the Single Localization in Various Sites

Organs involved	Number of the cases	Per cent'
liver	107	86.2
Spleen	1	0.8
Pancreas	1	0.8
Greater omentum	1	0.8
Anterior abdominal wall	1	0.8
Right inguinal area	1	0.8
Left thigh	1	0.8
Thyroid gland	1	0.8
Tola)	114	91.8

Table - II

Distributions of the Cases Taking Multiple Organ Involvements Into Consideration

Organs involved together	Number of the cases	Per cent
Liver &spleen	4	3.2
Liver & epigastrium-	o	1.6
Liver & parotid gland	1	0.8
Kidney & pelvis	1	0.8
Greater omentum & retroperitoneum	1	0.8
Kidney &spleen & retroperitoneum	1	0.8
Total	10	8.0

1983 and 1989 were investigated retrospectively with respect to the rare localizations of the disease. 114 patients had single organ involvement (92 *%)* and ten had multiorgan localization (Table I and Table—II). The liver was found as the most affected site in 107 patients (86.2%). Both hepatic and splenic involvements were found in four cases (3.2%). Moreover, as an uncommon localization of the disease, one patient had a cyst in the pancreas, one in the parotid gland, one in the abdominal wall, one in the right inguinal area and one in thigh, apart from the thyroid localization mentioned herein.

Table - IH

Hydatid Cyst Cases of the Thyroid Gland Reported From Turkey Between 1980 and 1989

Authors	Number of the cases	Ages of the cases
İrfanoğlu A'coll. (1983)(13)	2	9,68
Astarcıoğlu & coll. (1983)(3)	1	46
Kayabah& coll. (1983)(16)	3	11,14,16
Altın & coll. (1984)(1)	4	6.8,9,11
Gurses&coll. (1986)(12)	1	7
Total	11	Aver. 18.6

DISCUSSION

While almost 80 to 85 per cent of the embryos of Echinococcus granulosus traversing from bowel into portal circulation is located in the liver and lungs, the remaining 10 to 15 per cent can involve in any organ of the organism via systemic circulation (19,22,26).

The rates of the various organ involvements reported so far in the literature are very different. Karpathios and his colleagues (15) diagnosed the liver involvement in 70 per cent of the 3866 patients who had had single organ localization. Lung involvement was 23 per cent and other organ localizations were 7 per cent in the same series (15). Conversely, Amir-Jahed and his colleagues (2) found in 179 cases that the lung localization was more than that of the liver (46 per cent versus 32 per cent). They have put forward that the primary lung involvement is due likely to the easy embryonic contamination of the respiratory tract via inhalation particularly in the hot and dusty regions. Rate of the single organ localization was 91 per cent and the liver involvement was 86.2 per cent in our series. Naturally, there was no case of hydatid cyst in lungs in this series because of no admittance of such patients to the clinic principally.

Rates of the other organ localizations are also different in the literature. Of all cases of hydatid cyst. 1 to 5 per cent has been found in the spleen (2,14, 22), 2 to 3 per cent in kidneys (2,6,23), 0.5 to 2.5 per cent in the heart (26), 2 per cent in bones (22), 1 per cent in muscles (4), 0.5 to 1 per cent in the central nervous system (110, and 0.22 to 1.68 per cent in muscles (4), 0.5 to 1 per cent in the cenral nervous system (11), and 0.22 to 1.68 per cent in the pancreas (29). Rate of the extrahepatic single organ involvement is 4.8 per cent in our series (Table—I). These sites are spleen, pancreas, greater omentum, anterior abdominal wall, right inguinal area, left thigh and parotid and throid glands (The rate is 0.8 per cent for each). There are multiorgan localizations in 8 per cent of all cases (Table—II). Involvement of the liver and spleen together is the most frequent finding among such cases. There has been, moreover, a case of the liver and parotid gland involvement in the same series. Localization of hydatid disease in salivary glands, particularly in parotid gland, is a very uncommon situation (10,12).

Involvement of the thyroid gland is also so rare that the number of the published cases is not more than 165 in the world literature (1,9,12,16). Liteaud

published the first case with hydatid cyst of the thyroid gland in 1704 (27). Then, Oser and Desceraciz, Shalkeas and Sechas reported 12 cases and von Eiselberg published 21 cases (27). Frpm Turkey, we noted that, while only 10 cases had been published between 1910 and 1980 (13,20), there were 11 published cases in the last decade (1,3,12,13,16). Of those 11 cases reported from Turkey recently, 9 were children, whilst published series in the literature have adults in majority (Table—III).

The localization rate of hydatid cyst in the thyroid gland varies from 0 to 3.4 per cent in the literature (1,6,9,24). This rate is 0.8 per cent in our series. Dettori and his colleagues (8) found only two cases operatively among 906 patients (0.2 per cent) who had undergone thyroid surgery for cold nodule. Alt/n and his colleagues (1) reported 4 cases (5 per cent) that were diagnosed during operation in 77 children undergone surgery for thyroid nodule. We found only one case in 759 patients (0.13 per cent) who had had thyroid surgery before in our clinic.

In the patients with neck swelling and cold nodule in the thyroid gland, one should keep hydatid disease in mind in order to make differential diagnosis. For this reason, ultrasonography must be performed in such patients (12,28). One should be sure before the aspiration of cystic thyroid nodules that are not, in fact, hydatid cysts structuarlly. Or else, it would be strongly possible to contaminate the adjacent tissues (1). Diagnosis is usually made at surgery just the same as that in our case.

Management of the thyroidal hydatid cyst is primarily surgical. Complete excision should be the method of choice. Moreover, subtotal thyroidectomy can be accomplished in some cases (1,12,13,20). As the scolicidal agents are used in prevention from contamination, administration of the hypertonic solutions in excessive concentrations should be avoided. Because, such solutions may cause tissue mecrosis or oedema in the surrounding structures. A moderate oedema developed in both flaps in our case. This might be due probably to sodium chlorure, 3 per cent in concentration, that we had used during operation.

In summary, hydatid cyst should be considered particularly in the evaluation of cystic lesions belonging to the thyroid gland through the examination of the patients living in endemic areas. It should be also kept in mind that ultrasonography is the first method of choice in difeerentiating pathologies. Total excision should be preferred and the use of hypertonic solution at excessive concentrations must be avoided.

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