Pediatrik Cerrahi Dergisi, 7:103-104, 1993

Thyroid abscess: A case report

Mustafa KÜÇÜKAYDIN, Hamit OKUR, Ahmet KAZEZ, Ahmet C. DURAK

Departments of Pediatric Surgery and Radiodiagnostics, Erciyes University Medical Faculty Kayseri, Turkey

Summary

Acute suppurative thyroiditis and thyroid abscess are very uncommon. We present a 12-year-old girl with right thyroid lobe abscess. Our discussion focuses on two considerations: First, etiology; second, management of patient.

Key words: *Abscess, thyroiditis, suppurative*

Introduction

Acute suppurative thyroiditis and thyroid abscess are almost non-existent in the developed countries and even in the developing world, it still remains a rare disease entity [6,7]. An excellent review indicated that only 224 cases with bacterial thyroid infections have been reported between 1900 and 1980, ages ranging from three months to 80 years [3]. 22 of the cases were children below the age of 10 years. Herein we report a girl with a thyroid abscess and review the pertinent literature.

Case Report

A 12-year-old girl presented with fever, and a painful and tender mass in the right anterior part of the neck. Following admission to the pediatric surgery clinic, physical examination disclosed a temperature of 38.0° C, pulse rate of 120 beats/min, and blood pressure of 120/60 mmHg. Abnormal findings at physical examination were limited to an exquisitely tender mass in the right thyroid lobe. The overlying skin was warm and slightly erythematous.

Laboratory studies revealed a leukocystosis of 10.000 cell/mm3 with 70 % polymorphonuclear leukocystes, 15 % band forms and 10 % lymphocytes. The erythrocyte sedimantation rate was 27 mm/h. Thyroid function tests showed T3: 84.3 ng/dl (range 52-175), T4: 9.7 µg/dl (range 4-12) and TSH: 3.74 µIU/ml (range 0-4). Ultrasonography revealed a cystic lesion 32x18 mm in diameter in the right thyroid lobe (Figure 1). Fine needle aspiration of the mass produced 4 ml of thin white material containing many polymorphonuclear leucocytes and gram positive cocci that proved in culture to be aerobic and anaerobic beta-hemolytic streptococcus and bacteroides. The abscess was drained under local anesthesia.

The patient was treated with ceftriaxone (50 mg/kg/day), and ornidazol (30 mg/kg/day) for six days and discharged in satisfactory condition after ten additional days of oral sefiksim 8 mg/kg/two times a day. An ultrasonographic examination a month later revealed no pathology.

Discussion

Acute suppurative thyroiditis and thyroid abscess are rare but potentially life-threatening [6,7]. Six cases with suppurative thyroiditis were encountered among 1309 patients consecutively operated on the thyroid gland between 1933 and 1955 [8]. Berger et al have reviewed all cases of thyroid infection reported in the English-Language literature between 1900 and 1980 and 224 cases were found [3].

The rarity of thyroid infection has been ascribed to the unique anatomic isolation of the gland and its rich system of drainage for blood and lymph. High localized concentrations of iodine containing chemicals may also exert an antibacterial effect [4]. While infection via a lymphatic route has been suggested by some authors, others favor the possibility of hematogenous infection [1,4]. In some instances suppurative thyroiditis has resulted from direct spread

Address: Doç. Dr. Mustafa Küçükaydın, Erciyes Üniversitesi Tıp Fakültesi Çocuk Cerrahisi Anabilim Dalı, 38039 Kayseri, Türkiye

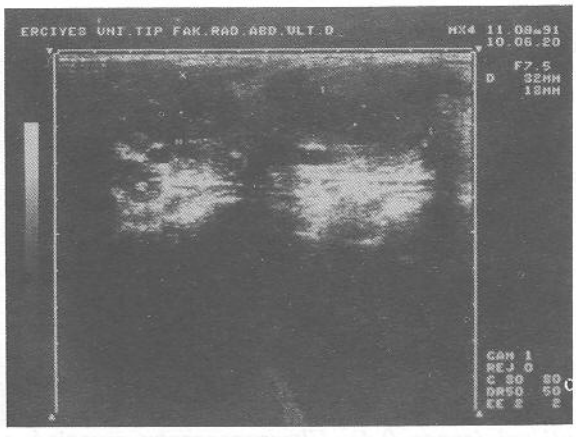

Figure 1. Ultrasound examination of the patient showing a cyst in the right thyroid lobe.

of contaminated material through a patent thyroglossal fistula, perforation of the esophagus by a foreign body or extension of infection from surrounding cervical tissue, which, however, was not present in our patient [4].

The most commonly implicated source of infection in the large series was prior upper respiratory tract infection, especially pharyngitis, but our patient had no respiratory tract symptoms and the portal of entry could not be identified [2,5,7].

The classical signs of acute bacterial thyroiditis are pain, tenderness, fever, dysphagia, erythema, dsyphonia, local warmth, and concurrent pharyngitis [9,10]. Our patients was admitted to the hospital because of increasing pain, mass, erythema and fever.

Acute suppurative thyroiditis may be a fatal disease without treatment. For this reason early diagnosis is necessary. The differential diagnosis of subacute thyroiditis and acute suppurative thyroiditis is also very important. Ultrasonographic investigation and needle aspiration are the most useful procedures in the diagnosis of thyroid abscess [2,6,8]. We used ultrasonography and fine needle aspiration for diagnosis.

The usual management in acute non-suppurative thyroiditis consits of the application of cold, antibiotics and analgesics. If suppuration ensues in spite of treatment, prompt incision and drainage is the best treatment. Fluctuation may be ascertained but this is not essential for diagnosis because the heavy fasciae, swelling and edema of the contigious ports can mask suppuration in the thyroid gland very easily [3,4,9].

Various incisions have been made for abscess drainage, such as vertical incision in the midline, incisions along the anterior border of the sternocleidomastoid muscle in the presence of unilateral swelling and incisions made transversely over the most dependent area of the swelling [1,4,7,8]. We used a transvers incision over the swelling for drainage of the abscess.

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