DOI: 10.4274/tjem.2536

Postpartum Thyrotoxicosis with Acute Suppurative Thyroiditis Caused by Peptostreptococcus

Peptostreptokok Nedenli Akut Süpüratif Tiroidit Gelişen Postpartum Tirotoksikoz Olgusu

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Abstract

Acute suppurative thyroiditis (ST) is caused by infection of the thyroid gland. Abscess formation in acute ST is a rare, but potentially life-threatening condition. Most patients with acute ST have predisposing conditions. Herein, we report a 24-year-old female who presented on the fifth postpartum day with severe dysphagia, fever, chills, and sore throat. Thyroid hormone levels were consistent with thyrotoxicosis. Based on the clinical, radiological and laboratory findings, ST and abscess caused by Peptostreptococcus was diagnosed. The patient was successfully treated with appropriate antibiotics and ultrasound-guided abscess drainage. *Turk Jem 2015; 19: 67-68*
Key words: Postpartum, thyrotoxicosis, peptostreptococcus

Conflicts of Interest: The authors reported no conflict of interest related to this article.

Özet

Akut supuratif tiroidit (ST) tiroid bezinin akut enfeksiyonu sonucu oluşmaktadır. Akut ST'de abse gelişimi nadir gözlenen hayatı tehdit edici bir durumdur. Çoğu akut ST olgularında altta yatan bir hastalık mevcuttur. Burada postpartum 5. gününde şiddetli yutma güçlüğü, ateş, titrme ve boğaz ağrısı ile başvuran 24 yaşında bir bayan olguyu sunduk. Klinik, labaratuvar ve radyolojik bulgular sonucu olguya peptostreptokok enfeksiyonunun yol açtığı abse formasyonu ile seyreden ST tanısı konuldu. Olgumuz uygun antibiyotrapi ve ultrason eşiliğinde abse drenajı sonucunda başarılı bir şekilde tedavi edildi. *Turk Jem 2015; 19: 67-68*
Anahtar kelimeler: Postpartum, tirokoksikoz, peptostreptokok

Çıkar Çatışması: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemiştir.

Introduction

Acute suppurative thyroiditis (ST) is primarily caused by bacterial infection of the thyroid gland and is a rare, but potentially life-threatening condition (1). It is a rare disease because of the rich blood flow and lymphatic drainage, high iodine content and protective fibrous capsule of the thyroid gland (2). Acute ST accounts for 0.1-0.7% of all cases of thyroiditis (3). Aerobic bacteria are the most often isolated organisms from ST patients, whereas anaerobic bacteria, viruses, and parasites are less commonly encountered. The disease presents with sudden onset pain, and tender and warm swelling in the anterior region of the neck (1). Patients initially suspected for ST should be evaluated via ultrasonography (USG). Neck USG often shows abscess formation and facilitates guided drainage when necessary (4). If there is clinical or sonographic evidence of abscess formation, fine needle aspiration for culture must be performed. Herein, we present a case of ST with thyroid abscess accompanied by thyrotoxicosis on postpartum period caused by Peptostreptococcus, which is also rarely encountered.

Case Report

A 24-year-old female presented to our clinic on postpartum day 5 with severe neck pain when swallowing, and chills and fever. She had been diagnosed with acute tonsillitis 6 days before delivery and had used oral amoxicillin for 5 days. Physical examination revealed fever (38 °C), tachycardia, and an erythematous non-fluctuant mass over the left thyroid lobe. Laboratory findings were as follows; elevated WBC count: 14.490 (neutrophils 85%); erythrocyte sedimentation rate: 30 mm/h; C-reactive protein (CRP): 127 mg/L. Thyroid function test results were as follows: free T4 (thyroxine): 3.12 ng/dL (normal range: 0.93-1.7); free T3 (triiodothyronine): 6.72 pg/mL (normal range: 2.0-4.4); TSH

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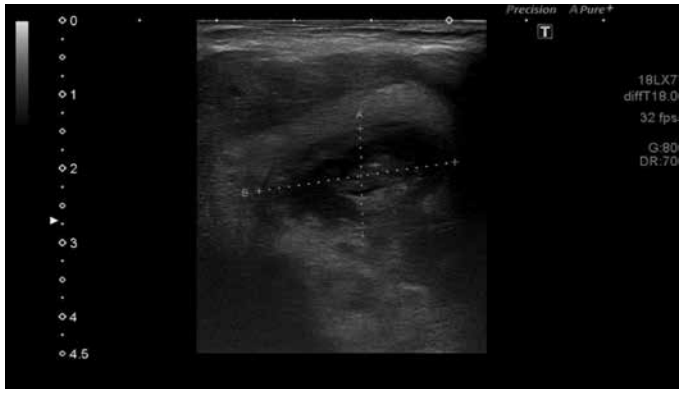

Figure 1. Thyroid USG showed a heterogeneous hypoechoic lesion in the left thyroid lobe

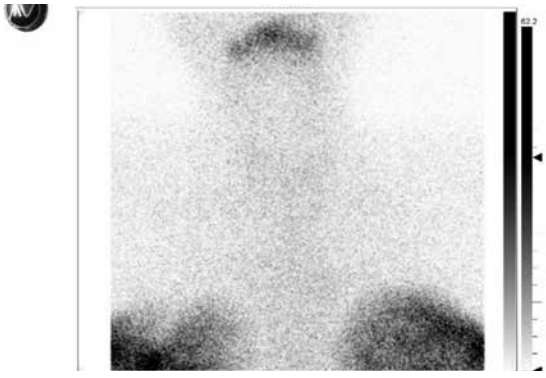

Figure 2. Technetium 99m sodium pertechnetate neck scan showed no uptake in the thyroid beds

(thyroid-stimulating hormone): 0.01 μIU/mL (normal range: 0.27-4.2). Thyroid USG showed a heterogeneous hypoechoic lesion measuring 10.1x14.5x25.6 mm in the left lobe (Figure 1). Technetium 99m (99mTc) sodium pertechnetate neck scan showed no uptake in the thyroid beds (Figure 2). The results were compatible with thyrotoxicosis due to thyroid tissue destruction. There were no parenchymal changes that might hint the existence of other conditions causing thyrotoxicosis.

Approximately 5 cc of purulent yellow-brown foul-smelling fluid was obtained at the first USG-guided aspiration, a portion of which was cultivated. The patient was administered sulbactam/ampicillin for initial therapy. USG-guided aspirations had to be repeated three more times. Thyroid aspirate cultures showed Peptostreptococcus growth which was sensitive to sulbactam/ampicillin. Two weeks later, thyroid USG showed that the abscess shrank to 2.2x3.1x4.2 mm. On the 20th day of antimicrobial therapy, all clinical and laboratory signs and symptoms of infection were resolved and antibiotic therapy was discontinued.

Discussion

The thyroid gland is relatively resistant to infections. Most ST patients have predisposing conditions. Studies on adults with ST have reported that a history of goiter or adenoma in the thyroid gland is common (5). The organisms most commonly isolated from children with ST are Staphylococcus aureus, followed by S. pyogenes, S. epidermidis, and S. pneumoniae, in descending order of frequency (6). When anaerobic bacteria, such as anaerobic gram-negative bacilli and Peptostreptococcus spp., are isolated from an infected thyroid they tend to be members of the oropharyngeal flora (1). Some viruses and parasites have been associated with ST. In this case, ST and abscess had probably developed after an upper respiratory tract infection via direct invasion of Peptostreptococcus which might have been facilitated by maternal immune adaptation.

Fever, chills, erythema, sore throat, dysphagia, and dysphonia can be associated with ST. Symptoms develop over the course of days to a few weeks (18 d). Most cases develop following an upper respiratory tract infection. Leukocytosis, an elevated erythrocyte sedimentation rate, and elevated CRP are usually present (6). On physical examination, the thyroid gland is swollen and tender. Reactive lymphadenopathy may occur if the disease progresses. A single lobe, both lobes or only the isthmus of the thyroid may be involved. The infection preferentially involves the left lobe in 90% of cases (6). In our case, the abscess involved the left side of the thyroid gland.

ST should be differentiated from subacute granulomatous thyroiditis, malignancy, intracystic hemorrhage, and painful Hashimoto's thyroiditis. The diagnosis of ST should be confirmed via laboratory findings. T4, T3, and TSH levels are generally normal. The presence of thyrotoxicosis does not preclude a diagnosis of ST. In a series of children with ST, 93% had normal thyroid function test results, 4% were hyperthyroid, and 2% were hypothyroid (7). An adult ST series reported that 83% of the patients with bacterial thyroiditis had normal thyroid function test results (8). In the presented case, thyroid function test results were initially consistent with overt hyperthyroidism, but following appropriate therapy, they returned to normal ranges.

The management of acute ST with abscess initially includes antibiotic therapy and drainage. For empiric antibiotic therapy, clindamycin, penicillin with a beta-lactamase inhibitor, carbapenems, or metronidazole can be given. In the presented case, a rarely seen anaerobe, "Peptostreptococcus" was isolated from the patient's thyroid abscess and she was treated successfully with parenteral sulbactam/ampicillin therapy and multiple thyroid abscess aspirations. A review by Berger et al. reported a fatality rate of 12.1% in the absence of treatment (9). In this case, thyrotoxicosis has resolved with no medications. The patient was examined for anatomical deformity after the delivery. No anatomical deformity was found. During the follow-up period, the patient's prognosis was excellent with no complications.

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