

Case Report / Olgu Sunumu

Thyroid Abscess Due To Brucellosis: Case Report

Bruselloza Bağlı Tiroid Apsesi: Olgu Sunumu

Rezan HARMAN¹, Zahide AŞIK¹, Dilara İNAN¹, Özge TURHAN¹, Betil Özhak BAYSAN², Filiz GÜNSEREN¹

¹Akdeniz Üniversitesi Tip Fakültesi, İnfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Anabilim Dalı,

²Tıbbi Mikrobiyoloji Anabilim Dalı, Antalya

Submitted / Başvuru tarihi: 04.11.2008 *Accepted / Kabul tarihi:* 29.12.2008

Brucellosis is primarily seen in endemic regions and is also common worldwide. The range of clinical features of brucellosis is wide. According to our knowledge, a thyroid abscess caused by *Brucella* spp. has not previously been reported in Turkey. In this study, we reported a 20 year old man who had a thyroid abscess caused by *Brucella* spp.

Key words: Brucellosis; *Brucella* spp.; thyroid abscess.

Bruselloz başta endemik bölgelerde olmak üzere tüm dünyada yaygın görülen bir zoonozdur. Brusellozon klinik bulguları çeşitlilik gösterebilir. Bilgimiz dâhilinde Türkiye'de daha önce *Brucella* spp.'nin etken olduğu tiroid apsesi bildirilmemiştir. Bu çalışmada *Brucella* spp.'nin etken olduğu tiroid apsesi olan yirmi yaşında bir erkek hasta sunulmuştur

Anahtar sözcükler: Bruselloz; *Brucella* spp.; tiroid apsesi.

INTRODUCTION

As a zoonotic disease, brucellosis is commonly seen all around the world and is notably endemic in Mediterranean Countries, Central and South America.^[1] *Brucella* spp. are small, gram-negative coccobacilli which are immobile and sporeless.^[2] The *Brucella* species are usually oxidase positive, catalase-positive and reduce nitrates to nitrites. Although they grow at aerobic conditions, many strains require an atmosphere containing 5-10% added CO₂ when first isolation is performed for growth.^[3]

Brucella melitensis and *Brucella abortus* are the species mostly known to cause disease in humans. *Brucella* spp. is primarily transmitted to humans by ingestion, skin contact through fissures-scratches and inhalation of contaminated dusts. Brucellosis may present as an acute, subacute and/or chronic disease in humans. The symptoms include fever, headache, arthralgia, back pain, cough, sweating, myalgia, anorexia, fatigue and loss of weight.^[1,4] It is a systemic disease, and may affect the gastrointestinal system, hematologic system, muscle and skeletal systems, genitourinary system, neurological

system, respiratory system, cardiovascular system, eye and skin.^[3]

To our best knowledge, our case is the first case report of a thyroid abscess caused by *Brucella* spp. in Turkey.

CASE REPORT

This report describes a twenty year old male, admitted to the physician six weeks earlier with back pain and subsequent left hip and left leg pains. He was treated with an analgesic and muscle relaxant but the therapy failed to reduce the symptoms. Two weeks later he went to the physician again. After the brucella standard tube agglutination test showed positivity at 1/160 titers, he was referred to our clinic for further evaluation and testing. The three phase-bone scintigraphy was performed and showed an increased diffuse activity at all phases on the left sacroiliac joint that demonstrated left sacroileitis.

In his medical history, he informed us about the consumption of raw cheese and had an unremarkable family history. On physical examination, limited joint mobility and aggravated pain in the left hip were detected. A complete blood count, blood biochemis-

XIII. Türk Klinik Mikrobiyoloji ve İnfeksiyon Hastalıkları Kongresi'nde (14-18 Mart 2007, Belek-Antalya) poster olarak sunulmuştur.

Correspondence (İletişim adresi): Dr. Özge Turhan. Akdeniz Üniversitesi Tip Fakültesi, İnfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Anabilim Dalı, Antalya, Turkey. Tel: 0242 249 67 16 e-mail (e-posta): ozgeturhan@akdeniz.edu.tr

© Trakya Üniversitesi Tip Fakültesi Dergisi. AVES Yayıncılık tarafından basılmıştır. Her hakkı saklıdır.

© Medical Journal of Trakya University. Published by AVES Publishing. All rights reserved.

try, liver function tests, sedimentation rate and C-reactive protein measurement were performed. The results were: Haemoglobin 14.2 g/dL; white blood cell (WBC) at 8300 mm³ (51% neutrophil, 36% lymphocyte, 12% monocyte), thrombocyte at 304.000 mm³, aspartate aminotransferase (AST) at 31 U/L, alanine aminotransferase (ALT) at 94 U/L, erythrocyte sedimentation rate (ESR) at 44 mm/h and C-reactive protein (CRP) at 11 mg/dl. Diagnosis of brucella sacroileitis was confirmed and the therapy regimen of rifampicin 1x600 mg/day and doxycycline 2x100 mg/day was planned. Five days later, the patient reported the pain in his neck. Neck ultrasonography revealed hyperechogenic septations involving the right thyroid lobule, compatible with an abscess or nodule and the dimensions were 28x22x22 mm. We also determined a few millimetric reactive lymph nodes on neck. Then the patient was hospitalized in the Infectious Disease and Clinical Microbiology Department subsequent to obtaining specimens by needle aspiration biopsy. Specimens for culture of purulent drainage in blood culture media. Furthermore, one blood culture vial from the patient was obtained. *Brucella* spp. was isolated from pus and blood cultures with the BACTEC 9240 blood culture system (Becton Dickinson, U.K). The patient was discharged due to normal thyroid function tests, but an outpatient clinic follow-up was planned within the same therapy regimen. During the follow-up, he had no problems and his laboratory findings were all within the normal range. The brucellosis therapy was extended to 11 weeks, until the outcome in patients was lost to follow up.

CONCLUSION

Brucellosis is a systemic infectious disease and may also affect many organs and systems. The most common complication is bone and joint involvement in brucellosis, which is reported in 20-85% of different cases. The most frequent form is sacroileitis and the second one is peripheral arthritis especially involving the knee and hip joints.^[1,5]

Subacute thyroiditis is rarely seen as a complication of brucellosis.^[6] Acute/subacute suppurative thyroiditis leading to a thyroid abscess is a rare clinical entity, representing less than 1% of all brucella complications and 0.1% to 0.7% of all surgically treated thyroid diseases.^[7,8] Hendrick et al.^[9] reported that 28 (24%) of 117 patients had acute thyroiditis and only 6 patients (5%) had thyroid abscess. Thyroid abscess is uncommon because of the gland status, such as anatomic position, its capsulated nature, iodine-rich environment, bilateral blood flow, anastomosing superior and inferior arteries with extensive lymphatic drainage that provide protection against bacterial invasion and growth. Fine needle aspiration biopsy is used for diagnosis of thyroid abscess and computerized tomography is suggested for evaluation of congenital anomalies in recurrent cases. Gram-positive bacteria (*Staphylococcus aureus* and *Streptococcus* spp.) are the most commonly responsible agents, however, gram-negatives are rarely recognized. Such organisms as *Klebsiella* spp., *Salmonella typhi*, *Salmonella bradenburg*, *Eikenella corrodens*,

Acinetobacter calcoaceticus are reported as rare causative agents of thyroid abscess in the literature.^[10,11]

Starakis et al.^[7] report a case of an 87-year-old woman who presented with acute thyroiditis and eventually developed a thyroid abscess caused by *Brucella melitensis* in Greece. Rifampicin (600 mg/d) and doxycycline (200 mg/d) were prescribed for 3 months, and doxycycline alone was administered for 6 more months in this study. In addition, she was operated on and the right thyroid lobe and isthmus were removed. Thyroid abscess is more frequent in children than adults. However, Menegaux et al.^[12] reported five thyroid abscess case reports, 4 of them in adults. In our adult patient, we isolated *Brucella* spp. in a sample obtained from drainage of the thyroid abscess.

In conclusion, any organ system can be involved in brucellosis. Especially in endemic areas, atypical forms of the disease must be considered in the differential diagnosis. The case described in this article is unique in that it is the first reported case of thyroid abscess caused by *Brucella* spp. in our country.

Conflict of Interest

No conflict of interest declared by the authors.

REFERENCES

1. Solera J, Martinez- Alfaro E, Espinosa A. Recognition and optimum treatment of brucellosis. Drugs 1997;53:245-56.
2. Young EJ. Brucella Species. In: Mandell GL, Bennett JE, Dolin R, editors. Principles and Practice of Infectious Diseases. 6th ed. Philadelphia: Churchill Livingstone; 2005;2669-74.
3. Shapiro DS, Wong JD. Brucella. In: Murray PR, Baron EJ, Pfaffer MA, Tenover FC, Yolken RH, editors. Manual of Clinical Microbiology. 7th ed. Washington: American Society for Microbiology; 1999;625-31.
4. Aydin G, Tosun A, Keles I, Ayaslioglu E, Tosun O, Orkun S. Brucellar spondylodiscitis: a case report. Int J Clin Pract 2006;60:1502-5.
5. Çelen MK. Komplike Bruselloz. ANKEM Dergisi 2006;20:214-8.
6. Sirmatel F, Akarsu E. Case report: A brucellosis case with subacute thyroiditis. Mikrobiyoloji Bult. 2004;38:149-53.
7. Starakis I, Stoubou V, Siagris D, et al. Brucellar thyroid abscess: Case report and review of the causes and management of this rare medical entity. Infect Dis Clin Pract 2007;15:70-3.
8. <http://emedicine.medscape.com/article/962194-overview> (29.12.2008)
9. Hendrick JW. Diagnosis and treatment of thyroiditis. Ann Surg 1956;144:176-87.
10. Jacobs A, Gros DAC, Graden DJ. Tyroid abscess due to *Acinetobacter calcoaceticus*: Case report and review of the causes of and current management strategies for thyroid abscesses. South Med J 2003;96:300-7.
11. Rohondia OS, Koti RS, Majumdar PP, Vijaykumar T, Bapat RD. Thyroid abscess. J Postgrad Med 1995;41:52-4.
12. Menegaux F, Biro G, Schatz C, Chigot JP. Thyroid abscess, Apropos of 5 cases. Ann Med Intern 1991;142:99-102.