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Unusual presentation of Streptococcus pneumoniae infection as a chest wall abscess

Streptococcus pneumoniae enfeksiyonunun göğüs duvarı absesi olarak alışılmamış sunumu

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Abstract

Chest wall abscess may develop due to primary infection, thoracic wall surgery or trauma. Treatment modality includes identification of the etiology, appropriate antibiotherapy and also surgical drainage in necessary conditions. We reported a 56 year old male who admitted to our clinic with a painful swelling on his back which developed rapid enlargement within two weeks. Computed tomography showed agreement with an abscess formation on the left lateral and posterior chest wall but was unable to diagnose any pathologic involvement in the lung parenchyma or ribs. We performed surgical drainage of the extrapleural collection that presented the growth of Streptococcus Pneumoniae in the postoperative studies. The aim of our report is to introduce an unusual and rare clinical presentation of the bacteria as an extrapulmonary manifestation which required surgical drainage.

Keywords: Chest wall abscess, Streptococcus Pneumoniae, Surgical drainage

Öz

Göğüs duvarı absesi primer enfeksiyon, göğüs duvarı cerrahisi veya travmaya bağlı olarak gelişebilir. Tedavi yöntemi etiolojinin saptanması, uygun antibiyoterapi ve gerekli durumlarda cerrahi drenaj uygulanmasıdır. Sırtındaki ağrılı şişlikte son iki haftada hızla büyüme oluşan 56 yaşındaki erkek hastayı sunmaktayız. Bilgisayarlı tomografide sol yan ve arka göğüs duvarında apse ile uyumlu görünüm saptanırken akciğer parankimi veya kaburgalarda herhangi patolojik bulguya rastlanmadı. Cerrahi drenaj uyguladığımız ekstraplevral koleksiyonun ameliyat sonrası incelemesinde Streptococcus Pneumoniae üremesi olduğu bildirildi. Sunumumuzun amacı bakterinin ekstrapulmoner bulgu olarak ortaya çıkan ve cerrahi drenaj gerektiren alışılmamış ve nadir klinik yansımasını takdim etmektir.

Anahtar kelimeler: Göğüs duvarı absesi, Streptococcus Pneumoniae, Cerrahi drenaj

Introduction

Chest wall abscess develops commonly upon infection, trauma or a complication of thoracic wall surgery. Treatment modality includes revelation of the etiology and effective antibiotherapy, however demanding surgery in selected cases [1]. Previous studies in the literature frequently reveal data about the chest wall abscess taking ground on other pathologies [1,2]. Our report is the first one to present a posterolateral chest wall abscess originating from an extrapulmonary Streptococcus Pneumoniae infection.

Case presentation

A 56-year-old male presented to our clinic with a painful swelling on his back which increased to the present size in two weeks period. He shared no history of trauma, respiratory complaints or past history of tuberculosis. The medical history of this patient was unremarkable except diabetes mellitus for which he had been taking medication for 15 years. Our physical examination showed averagely built man with a tense, immobile and fluctuating abscess formation in the left subscapular region surrounding the whole posterior chest wall, extending from vertebral column to anterior midaxillary line (Figure 1). Blood tests revealed white blood cells of $21.05 \times 10^3 / \mu\text{L}$, erythrocyte sedimentation rate of 102 mm per hour and C-reactive protein of 102.6 mg/L. Serology test for human immunodeficiency virus (HIV) was negative.

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Computed tomography of the thorax showed a collection extending across the left posterolateral chest wall measuring 87x56 mm in size but no sign of pulmonary or intrathoracic pathology (Figure 2). Under general anesthesia, a 15cm horizontal incision over the abscess achieved the drainage of pus which nearly amounted to 1500 mL. Furthermore, irrigation of the space, the debridement of the adhesions, also sampling of the fluid for microbial culture and pathologic examination were carried out. Microbial culture study reported the growth of *Streptococcus Pneumoniae* which is susceptible to ampicillin and ceftriaxone, whereas Ehrlich-Ziehl-Neelsen staining could not detect any acid resistant bacillus and the result of mycobacterium culture was negative. We discharged the patient on the fifth day after an uneventful postoperative period and administered antibiotherapy for further ten days. Follow up period did not feature any complication or relapse.



Figure 1: Abscess on the posterolateral chest wall of the patient



Figure 2: Computed tomography scan demonstrating the fluid collection on the chest wall but no intrathoracic pathology

Discussion

Chest wall infections may arise primarily or as a secondary infection caused by previous procedures or preexisting diseases. These infections may be simply treated by administering antibiotic therapy or may demand prolonged drainage and reconstructive operations [1].

Soft tissue abscesses of the chest wall are characterized by usual signs and symptoms of an abscess anywhere on the body, such as swelling, fever, malaise or pain. Computed tomography can successfully identify content and the localization of the collection. Diagnosis can be achieved with a diagnostic aspiration which will guide to the etiology of the abscess. Prompt drainage and appropriate antibiotherapy usually

lead to effective treatment [2]. Tuberculosis must always be taken into consideration, regarding the worldwide increase in its number of cases.

Streptococcus Pneumoniae is a gram-positive organism which is the most common cause of community-acquired pneumonia, bacterial meningitis, otitis media and bacteremia, as well as an important cause of sinusitis, septic arthritis, peritonitis and endocarditis [3]. It is less well known as a cause of infections in many other sites, including abdominal organs and soft tissues, which may be very severe [4]. High-risk groups for its infection include children younger than 2 years of age, adults older than 65 years of age, the patients with immune deficits (e.g., HIV infection, malignancy, alcoholism or diabetes mellitus) and the cases associated with decreased pulmonary clearance functions (e.g., asthma or chronic obstructive pulmonary disease) [5]. Treatment of the infection demand appropriate antibiotherapy, decided upon the identification and sensitivity tests of the bacteria. Previous studies in the literature usually cover data about chest wall abscesses arising on the base of tuberculosis, trauma or chondritis [6,7].

Our report is the first one to issue a chest wall abscess developing directly from an extrapulmonary *Streptococcus Pneumoniae* infection. A successful treatment modality was established by accurate diagnosis, adequate antibiotherapy and effective surgical intervention.

References

1. LoCicero J: Infections of the chest wall. In: Shields T, Locicero J, Ponn R, Rusch V (eds), *General Thoracic Surgery*. Philadelphia: Lippincott&Williams, 2005:682-3.
2. Losanoff JE, Richman BW, Jones JW. Necrotizing soft tissue infection of the chest wall. *J Cardiovasc Surg*. 2002;43:549.
3. Taylor S, Sanders C. Unusual manifestations of invasive pneumococcal infection. *Am J Med*. 1999;107(1):12-27.
4. Ossa A, Wistuba O, Illesca B, Reydet B. Invasive extrapulmonary infections due to streptococcus pneumoniae. Report of three fatal cases. *Revista Medica de Chile*. 1997;125(2):200-9.
5. Song JH, Oh W, Kang C, Chung DR, Peck KR, et al. Epidemiology and clinical outcomes of community-acquired pneumonia in adult patients in Asian countries: a prospective study by the Asian network for surveillance of resistant pathogens. *Int J Antimicrob Ag*. 2008;31(2):107-14.
6. Papavramidis T, Papadopoulos V, Michalopoulos A, Paramythiotis D, et al. Anterior chest wall tuberculous abscess: a case report. *J Med Case Reports*. 2007;1:152.
7. Hsu G, Chen C, Lai M, Luh S. Chest wall abscesses due to *Prevotella bivia*. *J Zhejiang Univ Sci B*. 2009;10(3):233-6.