Metastatic Cancer Versus Sarcoidosis in a Geriatric Patient: A Never-Ending Pitfall for Clinicians

Yaşlı bir hastada Metastatik Kansere Karşılık Sarkoidoz: Klinisyenler için Sonsuz bir Tuzak

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ABSTRACT

Sarcoidosis is a systemic disease with the multi-organ involvement. However, the lung involvement with hilar lymphadenopathy is the hallmark of the disease. Despite this, subtle clinical signs of sarcoidosis and non-spesific involvement of the chest by many different disorders often confound the diagnosis of this insidious disease. Therefore, it is essential to investigate common diseases of chest carefully before establishing the absolute diagnosis of sarcoidosis. In this article, we present a case of a 65 year-old woman who was admitted to the hospital with a fatigue lasting six weeks, together with a generalized body pain and left-sided chest pain propagating to the back. The patient reported anorexia with a weight loss of 4kg in this period. The initial evaluation revealed a transaminase elevation and interstitial radioopacities on the chest x-ray. The high resolution computer tomography of the chest showed the interstitial involvement and bronchiectasis. The angiotensin converting enzyme level was elevated. The bronchoalveolar lavage CD4/CD8 lymphocyte ratio was 3.39 and supported the diagnosis of sarcoidosis. The bronchoscopic biopsies were taken from airways and paratracheal lymph nodes to establish definitive diagnosis. Unlike our expectations, the biopsy revealed a breast cancer. The PET-CT, abdominal and cranial imaging showed metastases by the time of diagnosis. The trastuzumab therapy was started but the patient died as a consequence of the septic shock.

Key Words: Chest x-ray, mammography, malignancy, granulomatous disease, differential diagnosis

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ÖZET

Sarkoidoz çoklu organ tutulumu olan sistemik bir hastalıktır. Ancak hastalığın karakteristik özelliği hiler lenfadenopati ve akciğer tutulumudur. Buna rağmen, sarkoidozun silik klinik belirtileri ve çeşitli hastalıklarca akciğerin özgül olmayan tutulumu nedeniyle sıklıkla bu sinsi hastalığın tanısı güçleşmektedir. Bu nedenle, kesin sarkoidoz tanısı konulmadan önce sık rastlanan göğüs hastalıkları yönünden etraflı inceleme yapılması elzemdir. Bu makalede altmış beş yaşında altı haftadır olan halsizlik, yaygın vücut ağrısı ve göğüs sol tarafından sırta vuran ağrı ile hastaneye başvuran bir kadın olguyu sunuyoruz. Hasta bu süreçte iştahsızlığı ve 4 kilo kaybı olduğunu bildirdi. İlk değerlendirmelerde transaminaz yüksekliği ve göğüs filminde interstisyel radyoopasiteler olduğu ortaya çıktı. Yüksek çözünürlüklü göğüs tomografisinde bilateral interstisyel tutulum ve bronşiektazi görüldü. Anjiyotensin dönüştürücü enzim seviyesi yüksekti. Bronkoalveolar lavajda CD4/CD8 lenfosit oranı 3.39 idi ve sarkoidoz tanısını destekliyordu. Tanıyı kesinleştirmek üzere havayolları ve paratrakeal lenf nodlarından bronkoskopiyle biyopsiler alındı. Beklenenin aksine biyopsi sonucunda meme kanseri saptandı. PET-BT, abdominal ve kranial görüntülemede tanı esnasında metastazlar tespit edildi. Trastuzumab tedavisi başlandı, ancak hasta septik şok sonucu kaybedildi.

Anahtar Sözcükler: Göğüs grafisi, mamografi, malignite, granülomatöz hastalık, ayırıcı tanı

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INTRODUCTION

Sarcoidosis is a systemic granulomatous disease of unknown etiology. Multiple organs may be involved while lung, eye, and skin are the leading targets[1]. A huge list of other conditions is composed of differential diagnoses. Due to this complexity, many cases are reported to mimick sarcoidosis and vice versa. Here we report a case of breast cancer that mimicks sarcoidosis with its initial findings. A review of the literature is added subsequently.

CASE REPORT

A 65 year-old woman was admitted to the hospital with a fatigue that lasted six weeks, together with a generalized body pain, and left-sided chest pain propagating to the back. The patient reported anorexia with a weight loss of 4 kg in this period. The chest pain was defined as stabbing and independent of any physical exertion. Physical examination was normal except for infrequent fine crackles on auscultation.

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The patient was taking atorvastatin 20mg/day for hyperlipidemia, valsartan/hydrochlorothiazide 80/12.5mg/day for hypertension, and non-steroidal anti-inflammatory drugs (NSAIDs) for generalized body pain. Initial evaluation revealed transaminase elevations (ALT: 209U/l, AST: 261U/l, ALP: 561U/l, GGT: 220U/l, total /direct bilirubin: 1/0.25mg/dl), and interstitial radioopacities on chest x-ray (figure-1). The high resolution computed tomography of the chest showed bilateral subpleural interlobular septal thickenings and ground-glass densities. Also bilateral fusiform dilatations of ectatic bronchial structures were present, together with bilateral multiple soft tissue densities 1.5 cm in diameter with irregular borders, mostly seen in the apical segments of inferior lobes. Anti-SSA, Anti-SSB, Anti-Jo1, Anti-Scl70, Anti-Smith antibodies and romatoid factor were negative. Angiotensin converting enzyme level was found to be elevated (117U/l while maximum reference value was 35U/l) and a hypercalcemia was detected (11.4 mg/dl). The bronchoalveolar lavage (BAL) CD4/CD8 lymphocyte ratio was 3.39 and supported the diagnosis of sarcoidosis. Bronchoscopic biopsies were taken from airways and paratracheal lymph nodes to establish definitive diagnosis. Pulmonary function tests were in normal range. Acid-fast bacillus staining and an aerobic culture of BAL was negative. In terms of transaminase elevation, advanced studies revealed neither viral nor auto-immune hepatitis, and the alcohol consumption story was absent. Excessive NSAID plus statin treatment for hyperlipidemia were thought as the cause of the transaminase elevation and they were stopped. Abdominal ultrasonography was reported as normal except hepatosteatosis. The creatine phosphokinase level was checked to exclude statin induced rhabdomyolysis and found to be within the normal range. With the suspicion of cholestatic liver disease due to sarcoidosis involvement, the magnetic resonance cholangiopancreatography was performed. Intra- and extrahepatic biliary system was normal in size; however, multiple hyperintense nodular lesions were identified, as the dominant lesion was 2.5cm in diameter in segment eight. For the possibility of granulomatous infiltration dynamic, MRI was performed and hypervascular lesions were reported in the aforementioned region of the liver (figure-2). Echocardiography was performed for the evaluation of cardiac involvement of sarcoidosis and no pathological finding was observed. In the light of imaging studies, bronchoscopic findings and serum markers, the metilprednisolon therapy was started with the strongest possible diagnosis of sarcoidosis. In the mean time mammography was performed for breast cancer screening and a mass of 13x10mm in size in the right breast was determined, and was considered as BI-RADS4A. CA 15-3 level was very high (4000U/ml). Also, bronchoscopic fine-needle biopsy of paratracheal lymph nodes and airways revealed a breast cancer (figure-3). Estrogen, progesterone receptors, and Her2-neu presentation were positive. PET-CT, and cranial imaging showed multiple intracranial (figure-4), intraabdominal, and bone metastases. The patient had a rapid deterioration of renal function and suffered pneumonia. Trastuzumab therapy was started with the diagnosis of metastatic breast cancer, however the patient became tachycardic and tachypneic during the infusion of the first dose. Therefore, no further cytotoxic chemotherapy could be given. The patient died shortly after as a consequence of septic shock refractory to broad-spectrum antibiotics, hydration, and vasopressor medications.

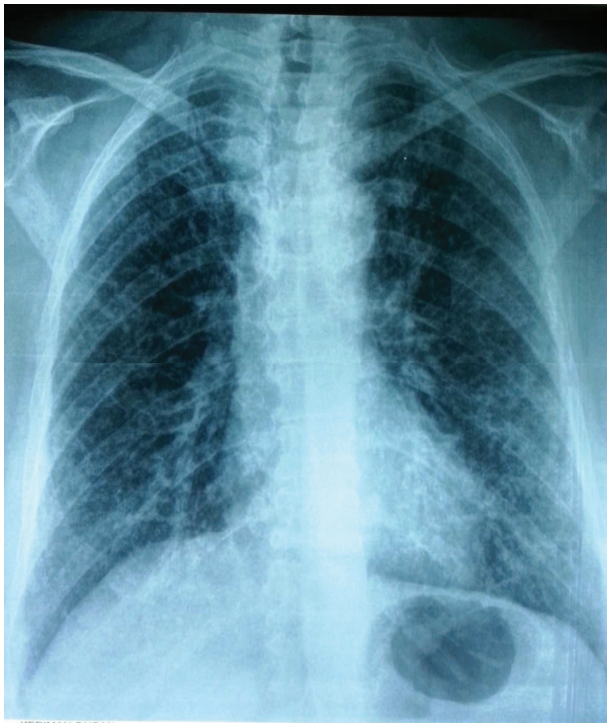


Figure 1: Chest x-ray of the patient shows bilateral diffuse interstitial infiltration.

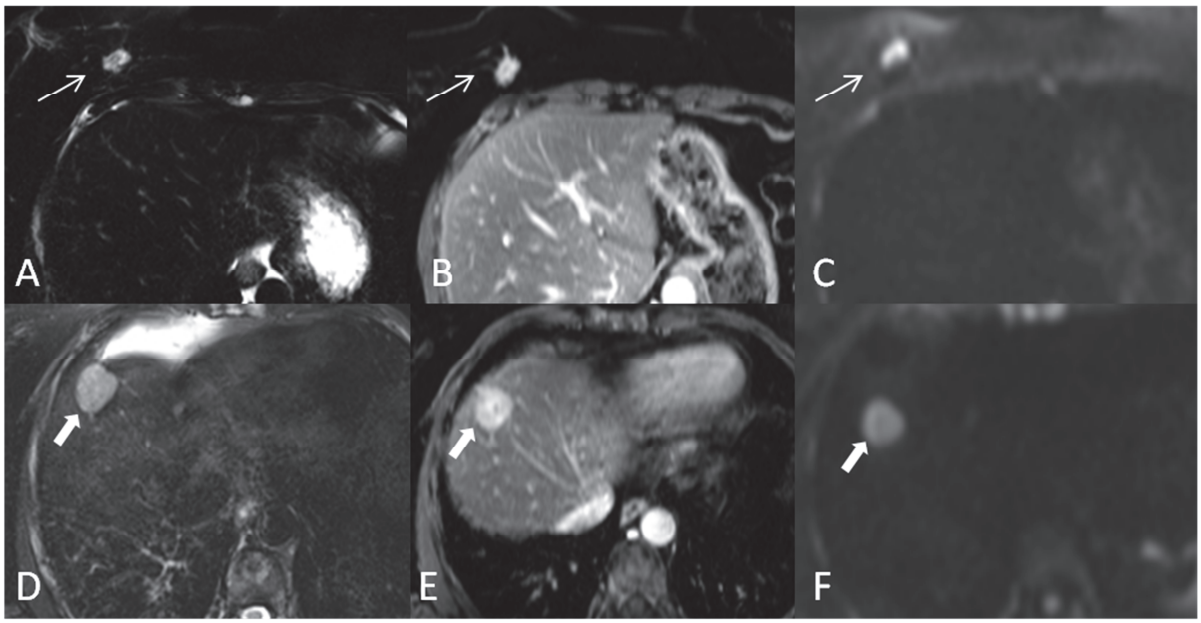
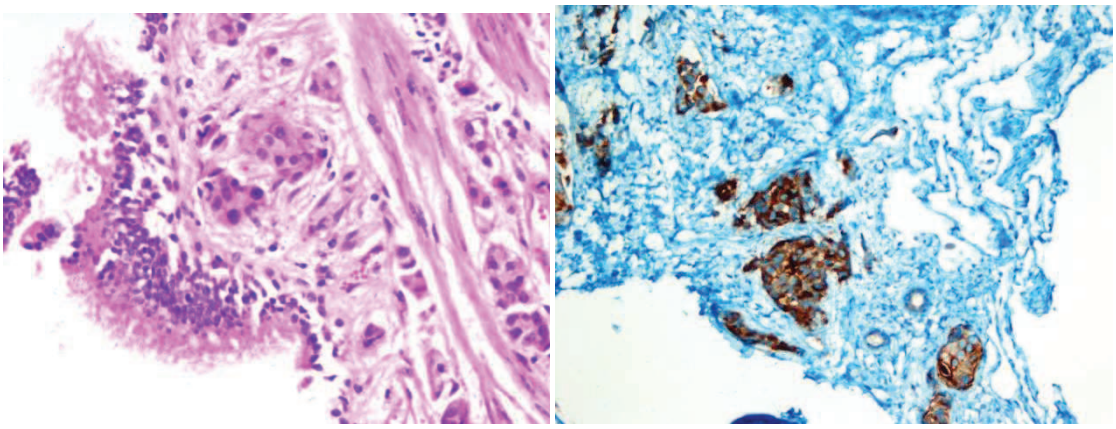


Figure 2: Abdominal MRI and the dynamic MRI of the patient. The white arrows in plates A,B and C shows the primary right breast mass with spicular borders in fat-suppression T2, post-contrast fat-suppression T1 and diffusion weighted axial images respectively. The white bold arrows in plates D,E and F shows the hypervascular metastatic mass in the segment 8 of the liver in fat-suppression T2, post-contrast fat-suppression T1 and diffusion weighted images respectively.



A B

Figure 3: Bronchoscopic fine-needle biopsy of paratracheal lymph nodes and airways (A) 20x magnification, tumoral infiltration under bronchial mucosal epithelium (B) 20x magnification, positive immunohistochemical staining of malignant tumoral infiltration with GCDFP-15 (Gross cystic disease fluid protein-15).

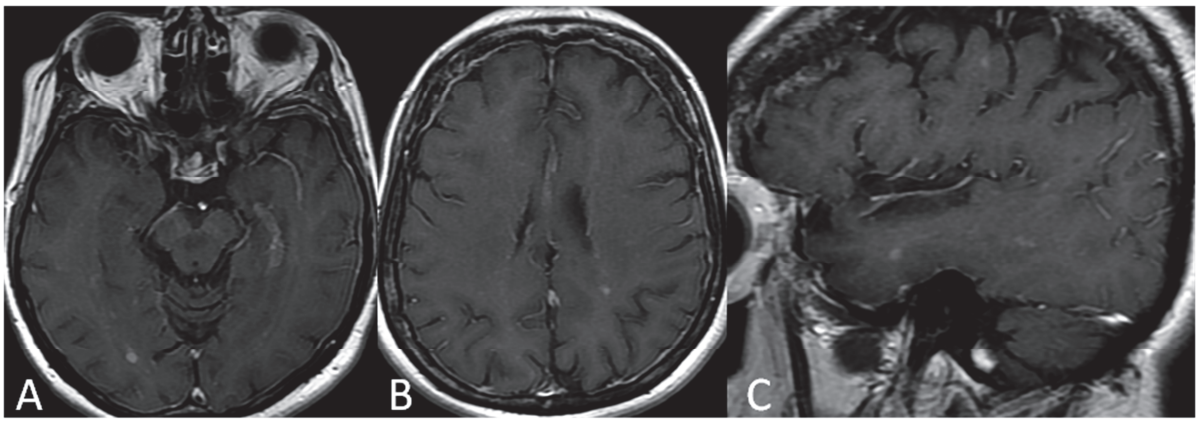


Figure 4: Cranial MRI of the patient. Milimetric multiple metastatic contrast enhancement foci are seen in T1 axial **(A,B)** and sagittal **(C)** images. Leptomenengial contrast enhancement is in favor of leptomenengial metastasis.

DISCUSSION

Sarcoidosis is a systemic disease and the non-specific organ involvement and insidious onset makes its differential diagnosis difficult. Recognizing the disease is the unique way leading to correct diagnosis and management. Infectious diseases of the lung (especially tuberculosis), primary and metastatic mass lesions of the chest, the lung involvement of connective tissue diseases are common confounders of the diagnosis. As it will change the management of the disease, correct diagnosis is essential. Also, there is a risk of delaying the early treatment of the disease while spending time with unnecessary laboratory and radiologic studies.

There are several cases in the medical literature concluding that it is of utmost importance to evaluate patients fully before absolute diagnosis and treatment due to the high prevalence of malignancy-sarcoidosis synchrony and similarity[2-6]. Regarding the aforementioned cases, patients were falsely diagnosed as having breast cancer and sarcoidosis was the underlying final etiology. A tough-to-differentiate, rare condition was reported in a 50 year-old woman with breast sarcoidosis mimicking metastatic breast cancer and false-positive CA 15-3 elevation[7]. Even PET-CT, as a reliable imaging method, was reported to be misleading in contrast to biopsy[8]. As noted above relying solely on laboratory and radiologic assessment is not sufficient.

CONCLUSION

Sarcoidosis and metastatic cancer may mimic each other. This situation lies behind a major challenge of diagnosis. Our case is somewhat different from those listed above. Sarcoidosis was the primary diagnosis with clinical and laboratory evaluations. However, the underlying disease was much more complicated contrary to our expectations.

Confirming the diagnosis with tissue pathology-so called “gold standard”- is essential before any therapy is given except emergency cases.

Conflict of interest

No conflict of interest was declared by the authors

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