

Necrotizing fasciitis as an early manifestation of tuberculosis: report of two cases

Tüberkülozun erken bir belirtisi olarak nekrotizan fasiit: İki olgu sunumu

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The association between necrotizing fasciitis and tuberculosis is extremely rare. We report two cases in which the initial clinical presentation of tuberculosis was that of necrotizing fasciitis proven by histopathology. Repeated adequate surgical debridement was performed in both. In one patient, acid-fast bacillus was cultured from a discharging sinus one year postoperatively. The other patient was diagnosed to have pulmonary tuberculosis two months postoperatively. The diagnosis of tuberculosis should be suspected in patients with necrotizing fasciitis with recurrence or unexpected slow response to surgery.

Key Words: Fasciitis; necrotizing; tuberculosis.

Nekrotizan fasiit ile tüberküloz birlikteliği son derece nadirdir. Tüberkülozun ilk klinik görüntüsünün histopatolojik yöntemle kanıtlanmış şekilde nekrotizan fasiit olduğu iki olgu sunuyoruz. Her iki olguda yinelenen cerrahi debridmanlar yapıldı. Bir olguda, ameliyattan bir yıl sonra bir sinüs akıntısı kültüründe aside dirençli basil üredi. Diğer hastada, ameliyattan iki ay sonra pulmoner tüberküloz tanısı kondu. Nükseden veya cerrahiye beklenmedik şekilde yavaş yanıt gösteren nekrotizan fasiitli hastalarda tüberküloz tanısından kuşkulandırılmalıdır.

Anahtar Sözcükler: Fasiit; nekrotizan; tüberküloz.

Necrotizing fasciitis (NF) is a rapidly progressive infection of the deep fascia with secondary necrosis of the skin. Low immunity is a major predisposing factor.^[1] NF secondary to tuberculosis is rare. The diagnosis of tuberculosis is often delayed because of this unusual presentation.^[2] Early diagnosis, adequate surgical debridement and the proper use of antibiotic/antituberculous drugs are essential for the treatment. Herein, we report two cases of tuberculosis presenting initially as NF.

CASE REPORTS

Case 1- A 46-year-old Bangladeshi male was admitted complaining of right lower abdominal pain of four days duration. He had a temperature of 38.5°C, pulse of 100 bpm and blood pressure of 120/70 mmHg. Tender erythematous indurated swelling was seen at the right lower abdomen extending to the suprapubic region. Blood investigations revealed hemoglobin of 13.3 g/dl, total white blood cell count of 30 x 10⁹/L, serum albumin of 2.1 g/dl, and human immunodeficiency virus (HIV) test was negative. Chest

X-ray was normal. Computed tomography (CT) scan of the abdomen showed an ill-defined collection at the right iliopsoas muscle extending below the right kidney laterally, to the right of the rectum inferiorly (Fig. 1a), and deep to the rectus sheath anteriorly. Multiple debridements of the extraperitoneal space were performed through three abdominal incisions: the right flank to access the retroperitoneal space; transverse abdominal incision to access the space behind the rectus sheath; and a right lower paramedian incision to access the extraperitoneal space lateral to the rectum (Fig. 1b). There was a dirty black fluid spreading through the retroperitoneal space without pus. Culture and sensitivity of the fluid was negative. These incisions proved to be adequate to control the sepsis as the wounds healed well. Histopathological examination showed soft tissue necrosis. Clinical suspicion of tuberculosis was raised and the patient was placed on antibiotics and four antituberculous drugs (isoniazid 300 mg daily, rifampin 600 mg daily, ethambutol 800 mg daily, and pyrazinamide 1.5 gm daily). The patient did well and returned to his native country. One year

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Fig. 1. (a) Coronal reconstruction of CT scan of the abdomen with intravenous contrast showing a distorted right iliopsoas muscle with hypodense areas (black arrow) extending laterally below the right kidney (white arrow) and inferiorly to the right of the rectum (arrow head). (b) A dirty, dark and necrotic tissue was excised through three abdominal incisions: transverse incision to access the space behind the rectus sheath (I); a right lower paramedian incision to access the extraperitoneal space lateral to the rectum (I) and the loin to access the retroperitoneal space (II).

later he returned with a discharging sinus from the right flank. The patient had stopped his treatment three months after surgery without advice. Mycobacterium tuberculosis was cultured from the discharging sinus. Antituberculous treatment was restarted and the sinus healed.

Case 2- A 55-year old diabetic Pakistani male was admitted with complaints of painful swellings of the scrotum and right thigh of five days duration associated with fever and rigors. The patient had a temperature of 37°C, blood pressure of 130/70 mmHg, and a pulse of 80 bpm. The scrotum was dusky and red in color with necrotic skin. The distal half of the right thigh and proximal leg were tender, indurated and erythematous. Blood investigations revealed hemoglobin of 11.9 g/dl, total white blood cell count of $22.3 \times 10^9/L$, serum

glucose of 649 mg/dl, serum albumin of 1.9 g/dl, and a negative HIV test. Chest X-ray was initially normal. Excision of the necrotic scrotal skin and multiple debridements for the lower limb were performed (Fig. 2a). Culture swab demonstrated growth of *Staphylococcus aureus* and *Klebsiella pneumoniae*. Histopathological examination showed NF involving the soft tissues of the scrotum and the lower limb. Two months later, the patient was readmitted complaining of fever associated with sweating, dry cough and weight loss. He appeared ill but had a normal temperature. Chest X-ray demonstrated infiltration and cavitations in the right lung (Fig. 2b). Sputum examination was positive for acid-fast bacilli. The patient received four antituberculous drugs (isoniazid 300 mg daily, rifampicin 450 mg daily, ethambutol 800 mg daily, and pyrazin-

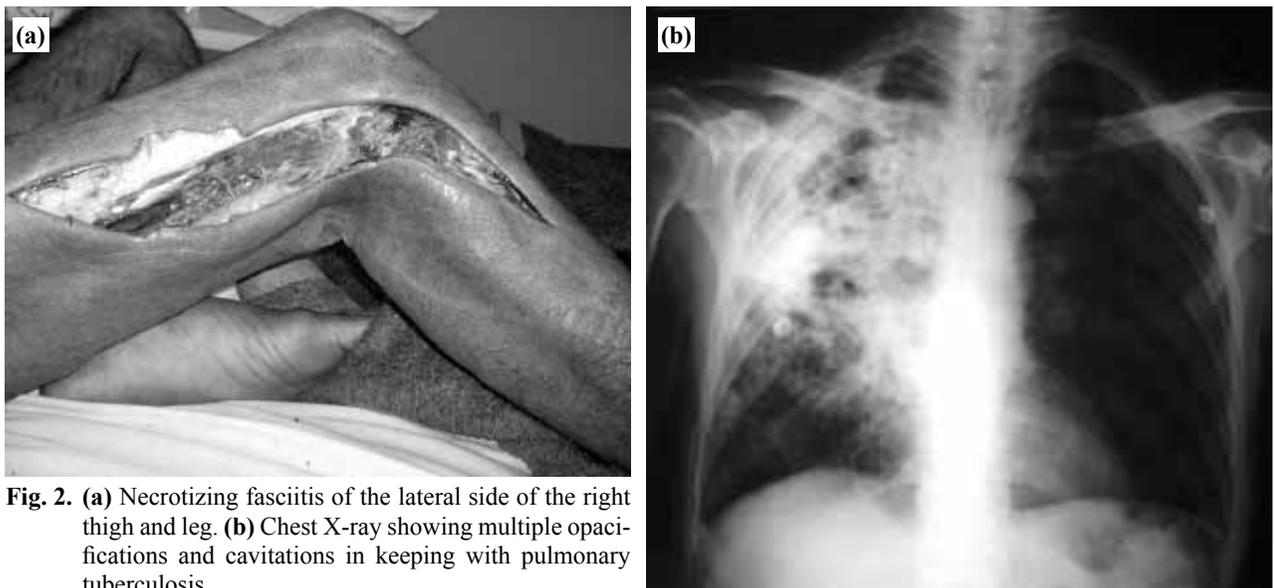


Fig. 2. (a) Necrotizing fasciitis of the lateral side of the right thigh and leg. (b) Chest X-ray showing multiple opacifications and cavitations in keeping with pulmonary tuberculosis.

amide 1.5 g daily). The patient returned to his native country and was lost to follow-up.

DISCUSSION

Necrotizing fasciitis is a serious infection that spreads rapidly and progressively along the fascial plains.^[3] NF is classified into primary and secondary types according to its etiology. Diabetes mellitus is the leading predisposing factor in both primary and secondary NF.^[4] One of our patients was diabetic. NF can be the initial presentation of tuberculosis in rare cases.^[5] Reduced immunity is a major predisposing factor.^[4] Steroid therapy may activate dormant *M. tuberculosis* leading to NF.^[2,6] Initially, constitutional symptoms of tuberculosis including low-grade fever, anorexia and weight loss may be absent.^[7]

In our patients, the initial clinical presentation was that of NF. Laboratory studies usually show the same results as with other serious acute infections.^[6] HIV testing is recommended in all patients in whom tuberculosis is diagnosed.^[8,9] Both of our patients had a negative HIV test. The diagnosis of NF was confirmed by histopathology of the excised tissues. A normal chest X-ray does not rule out tuberculosis as shown in one of our patients.^[10] Acid-fast bacilli were cultured from a discharging sinus one year after surgery in one of our patients. The prognosis of NF depends on early diagnosis, extensive surgical debridement and the proper use of drug therapy.^[1]

In conclusion, the diagnosis of tuberculosis should be suspected in patients with NF with recurrence or slow response to surgery due to reduced immunity in order to start proper treatment as soon as possible.

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