

Fire-eater's pneumonia

We read with interest the case report entitled “Fire-eater's pneumonia characterized by pneumatocele formation and spontaneous resolution” by Kadakal et al. (1) published in *Diagnostic and Interventional Radiology*. The article gave us the inspiration to share a nearly identical case of fire-eater's pneumonia with somewhat different features on computed tomography (CT) and a very typical history.

The disease is a rare form of chemical toxic pneumonitis, developing after aspiration of hydrocarbon products (1–3). Due to their chemical properties, these products easily spread through the airways by reducing the effectiveness of cough and choke reflexes, and give damage to bronchial mucosa and lung tissue due to high absorption rate (3). The resultant pathology is necrotizing acute bronchiolitis and necrotizing acute fibrinous pneumonia. Dyspnea, cough, hemoptysis, chest pain, and fever are the symptoms. Clinical characteristics of the patients, the disease, and the outcome can be variable (1).

A 30-year-old male patient, an actor performing fire breathing shows for the past several years, was admitted acutely to emergency room with complaints of high fever, weakness, cough, and dyspnea. Physical examination and his general body habitus was within normal limits. On admission, the patient remained in a relatively good condition, without signs of respiratory failure. Laboratory studies showed leukocytosis ($27.17 \times 10^3/\mu\text{L}$) with a left shift and significantly elevated CRP (169 mg/L) and procalcitonin (1.17 ng/mL). Initial chest radiograph showed smoothly bordered mass-like opacities (consolidations) on both lower paracardiac areas (Fig. 1). Computed tomography revealed almost symmetric consolidations with no air bronchograms on both lower and right middle lobes with some nearby nodules. The consolidations contained low attenuating cyst-like areas, and were also surrounded by ground glass infiltrations on thin-section images (Fig. 2). Patient was hospitalized with the diagnosis of chemical pneumonitis and received empirical antibiotic treatment ampicillin-sulbactam (6.0 g/day), bronchodilators, and oxygen. Fever response was achieved on the fifth day. Leukocyte count, CRP, and procalcitonin levels approached to normal on the tenth day, and clinical improvement was seen. Unfortunately the patient discharged himself against medical advice, hindering further follow-up examinations.

In fire-eater's pneumonia the diagnosis is based on history and radiological findings (2). Chest radiographs may show areas of consolidation, well-circumscribed nodules, pneumatocele, atelectasis, and pleural effusion, or even potential complications like pneumothorax (1). In a series of 44 exogenous lipid pneumonia cases of more familiar causatives like liquid paraffin, the afore mentioned findings were

mostly found bilaterally with the predilection of posterior and lower lung zones. Additional findings on CT may include alveolar consolidation with low attenuation, ground glass infiltrations, and ill-defined nodular opacities (2). In our case, the paramediastinal localization of the consolidations may be a consequence of standing upright during the artistic performance, and the cystic necrotic areas within the consolidations may be the progenitor of pneumatocele.

As most cases resolve spontaneously, treatment with prophylactic antibiotics and corticosteroids is controversial. Unless complicated, it was proposed to treat the patients only symptomatically (1–4). In our case, the patient received antibiotics because of high fever and leukocytosis,

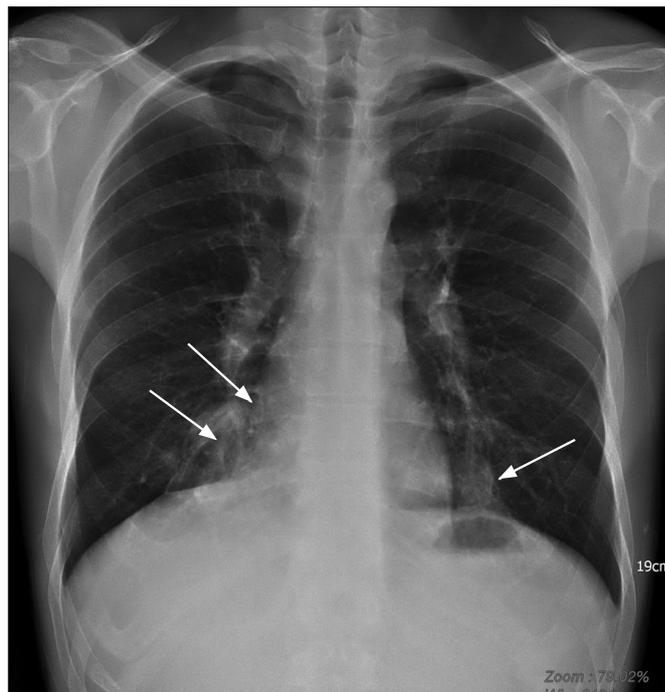


Figure 1. PA chest radiography shows smoothly bordered mass-like opacities on bilateral lower paracardiac areas (arrows).

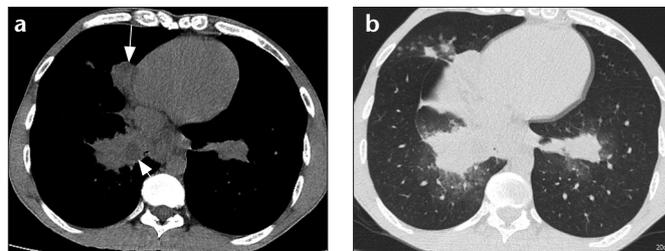


Figure 2. a, b. Computed tomography in mediastinal window setting (a) shows the consolidation containing liquid-filled cysts (arrows), and lung window (b) shows ground glass infiltrations and nodules surrounding the consolidations.

but no steroids were needed as there was a quick fever response and no sign of respiratory insufficiency.

Conflict of interest disclosure

The authors declared no conflicts of interest.

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