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Case report

A rare case of septic pulmonary embolism: A case report

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ABSTRACT

Septic pulmonary embolism occurs when septic material separates from its source and infiltrates the pulmonary parenchyma, resulting in substantial clinical symptoms. Here we report a 13-year-old female patient admitted to the hospital with a fever and chest discomfort. In the past days, she had bilateral limb pain, which induced traditional cauterization in the bilateral inguinal regions. On inspection, she had edema and erythema at the cauterization site, indicating wound infection. Multiple lung nodules were discovered on computed tomography, indicating SPE. High-dose antibiotics were started immediately after debridement. SPE is frequently associated with deep tissue infections, and cases of SPE following minor traumas are uncommon.

1. Introduction

Septic pulmonary embolism (SPE) is caused by emboli-causing microorganisms that arise from an extrapulmonary focus of infection obstructing the pulmonary circulation. Infective endocarditis, intravascular catheter devices, and intravenous drug abuse are the most common causes of SPE, but low-level soft-tissue infections can also be the origin of SPE [1]. The patient's prognosis is significantly increased by early clinical detection and urgent administration of broad-spectrum antibiotics. However, the initial clinical diagnosis is often challenging due to nonspecific findings in clinical and laboratory data. Recently, computed tomography (CT) of the chest has been used to characterize the typical appearance of septic emboli, and chest CT has become an important modality for identifying the presence of septic pulmonary embolism [2]. We present a case of SPE resulting from a soft-tissue infection following traditional cauterization.

2. Case report

A 13 yrs old female patient presented with fever and chest pain. She had bilateral limb pain in the last 15 days that resulted in traditional cauterization in the bilateral inguinal regions. She did not take any antibiotics prior to admission. On admission, her temperature was 37.7 °C, blood pressure was 110/70 mmHg, respiratory rate was 12 breaths/min, SpO2 was 99, and she presented with tachycardia (110 beats/min). On examination, she had swelling and erythema which suggested wound infection at the site of cauterization (Fig. 1). A white blood count (WBC) of 18,3109/L, an acute increase in C-reactive protein (CRP, 12.65 mg/dL), Hemoglobin of 11.8 g/dL, and a platelet count of 163,000/μL were discovered in blood tests, indicating severe inflammation. Chest X-ray (Fig. 2) and computed tomography (Fig. 3) showed bilateral, multiple lung nodules of variable sizes and some with cavitations and feeding vessels and pleural-based wedge-shaped opacities, which suggested septic pulmonary embolism. After immediate wound care, broad-spectrum antibiotics were administered. Later, MRSA was detected in blood culture and a course of linezolid was given for 8 days. After regular wound cleaning, both the wound and the patient's overall condition were improved. The recovery was complete;

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Fig. 1. Cauterization sites and surrounding swelling and erythema.

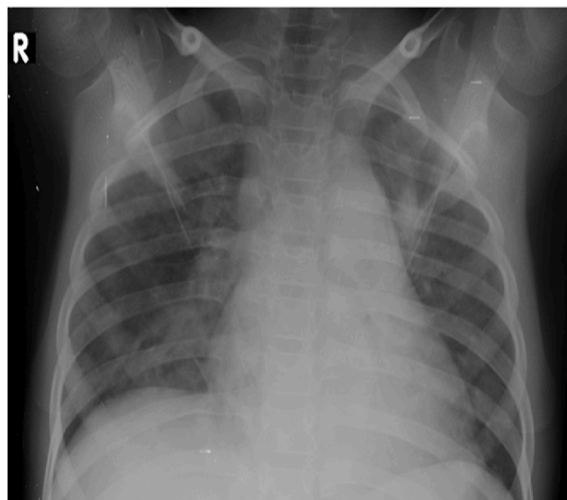


Fig. 2. Bilateral peripheral opacities.

there were no relapses during the follow-up (Fig. 4).

3. Discussion

Cauterization is the process of applying burns to tissue to close wounds, stop bleeding (because the heat causes the blood to coagulate), or remove a portion of the body [3]. Many patients in poor countries use traditional remedies before seeking medical advice; it has long been believed that traditional cauterization is the therapy of choice or the first option for many illnesses. It has been estimated that 80–% of the population in underdeveloped countries uses such traditional services for treatment, disease prevention, and/or good health maintenance [4]. Patients had traditional cautery because they wanted a quick recovery for their symptoms, regardless of whether the applied technique was painful or harmful.

Local infection with pus discharge, nonhealing ulcers, bedsores in the cauterized sites, and, in some situations, septicemia are the most common consequences of cauterization [5]. There are reports of tetanus developing after traditional cauterization. Furthermore, when cauterization is used as a last choice for critical instances such as cancer, delaying treatment increases the disease's aggressiveness, making it difficult to control and having negative consequences for the patient's health [6].

The majority of SPE cases have been associated with original infections, such as endocarditis, head and neck infections, and septic thrombophlebitis, which were linked to intravenous catheters, prosthetic vascular devices, and intravenous drug abuse. SPE is well-

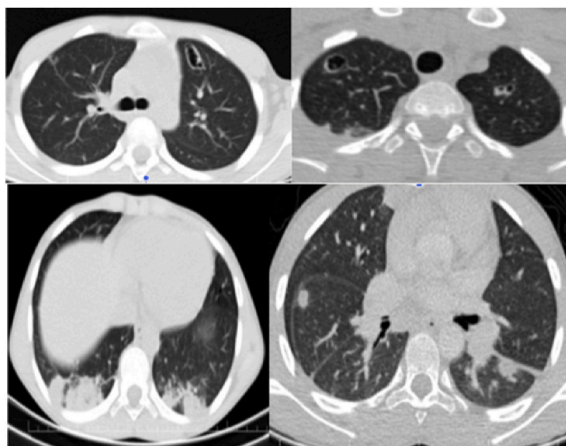


Fig. 3. Bilateral multiple lung nodules of variable sizes and some with cavitations and feeding vessels and pleural-based wedge-shaped opacities, which suggested septic pulmonary embolism.

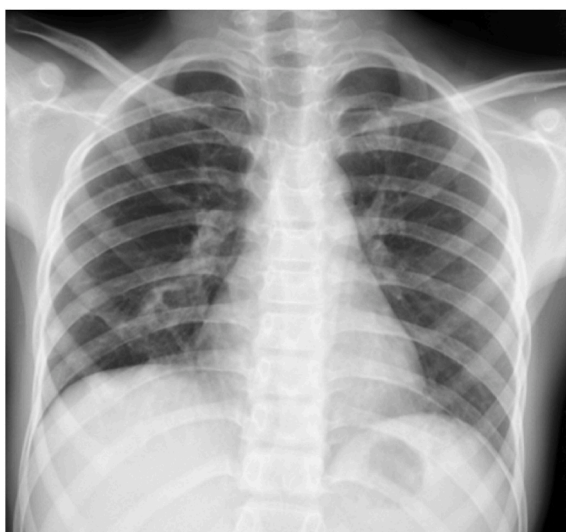


Fig. 4. Follow-up chest x-ray with normal findings.

documented in severe soft-tissue infections such as osteomyelitis, septic arthritis, cellulitis, and pyomyositis. However, it is not well-documented in traditional cauterization. Thus, such low-level soft-tissue infections can become contaminated and infected and can become a potential source of SPE.

4. Conclusion

In conclusion, we encountered a unique case of SPE following traditional cauterization. In such instances, a thorough examination aimed at determining the primary source of infection and the causal pathogen may lead to appropriate and effective treatments. Cauterization as traditional therapy should be avoided because it seems to do more harm than benefit to the patient. Health-care systems, health professionals, and religious leaders in society should work together to educate the public and prevent this harmful practice.

Ethics approval and consent to participate

Ethical approval for this study was waived by ethical committee of Mogadishu Somali Turkey, Recep Tayyip Erdogan Training and Research Hospital.

The Patient was invited to participate and written informed consent was obtained.

Consent for publication

After being informed of his child's illness, the father provided written informed consent. The father agreed to the publication of information about the child and/or photographs from the surgery. The importance of making this case report public was explained to the father, and no financial benefits were declared to the father. However, the case would help the community by promoting public awareness of the disease and its prevention. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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Declaration of competing Interest

The authors have no affiliation with any organization with a direct or indirect financial interest in the subject matter discussed in the manuscript.

This manuscript has not been submitted to, nor is under review at, another journal or other publishing venue.

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