

An uncommon complication in the drainage of a chest wall skin abscess: pneumothorax and subcutaneous emphysema

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Abstract

Objective: Skin and soft tissue infections are frequent cases of emergency services. Treatment of these patients is usually performed ambulatory in the form of abscess drainage and oral antibiotic therapy.

In this article, it was aimed to draw attention to the fact that a rib fracture may be seen after an abscess drainage made by inexperienced persons and that might lead to presentation with more complicated situation.

Keywords: Child, subcutaneous abscess, abscess drainage, pneumothorax, emphysema

Introduction

Skin and soft tissue infections affecting the pediatric age group are often encountered in the Emergency Department (ED). A common cause of these infections is gram positive bacteria, especially *Staphylococcus Aureus* (1). When these infections become an abscess, there may be a need for intervention by a pediatric surgeon. The traditional treatment method for abscess is to make an incision of approximately 1-1.5cm in the skin, drain the abscess, apply irrigation to the abscess pouch and if necessary place a mesh in the pouch and follow up with antibiotic therapy (2, 3). The majority of patients applied with incision and drainage can be discharged on the same day with antibiotic therapy following the necessary procedures, but potential complications should always be kept in mind (4, 5). The pediatric age group in particular is more sensitive to the possibility of complications. Patients who develop complications must be followed up and hospitalized if necessary.

Unlike most cases, this report is of a female child who presented with respiratory problems and air leakage from the wound site which developed following abscess drainage. The aim of this case report was to draw attention to the uncommon complication of pneumothorax that could develop following abscess drainage (6, 7).

Case Presentation

A 2-year old girl was brought to the ED with the complaint of air leakage from the wound site following with abscess drainage. From the anamnesis it was learned that 10 days previously the patient had been taken to a doctor because of redness in the shoulder and high temperature. She had been discharged with antibiotics then as the redness increased and widespread swelling developed on the anterior of the right side of the chest, she was taken to a different hospital. As a result of pulmonary radiographs taken there, abscess drainage was applied at the level of the 8th-9th rib on the right side of the chest. The use of antibiotics and daily dressings were recommended and due to the subsequent development of air leaking from the site of the abscess drainage, the patient was brought to our hospital.

In the first examination, the patient was conscious and the general status was fair. The patient had tachypnea and respiratory problems, axillary temperature was 36.8°C, heart rate was 154/min, O₂ saturation was 95%, blood glucose was 156 mg/dl and other laboratory test results were within normal limits. On auscultation, no respiratory sounds could be obtained in the right lung. On the anterior wall of the right thorax, there was widespread redness and increased temperature and there was widespread subcutaneous emphysema. When the abscess drainage dressing was removed, there was seen to be an air outlet from the wound site. Pneumothorax and subcutaneous emphysema were seen in the right hemi-thorax of the patient (Figure 1).

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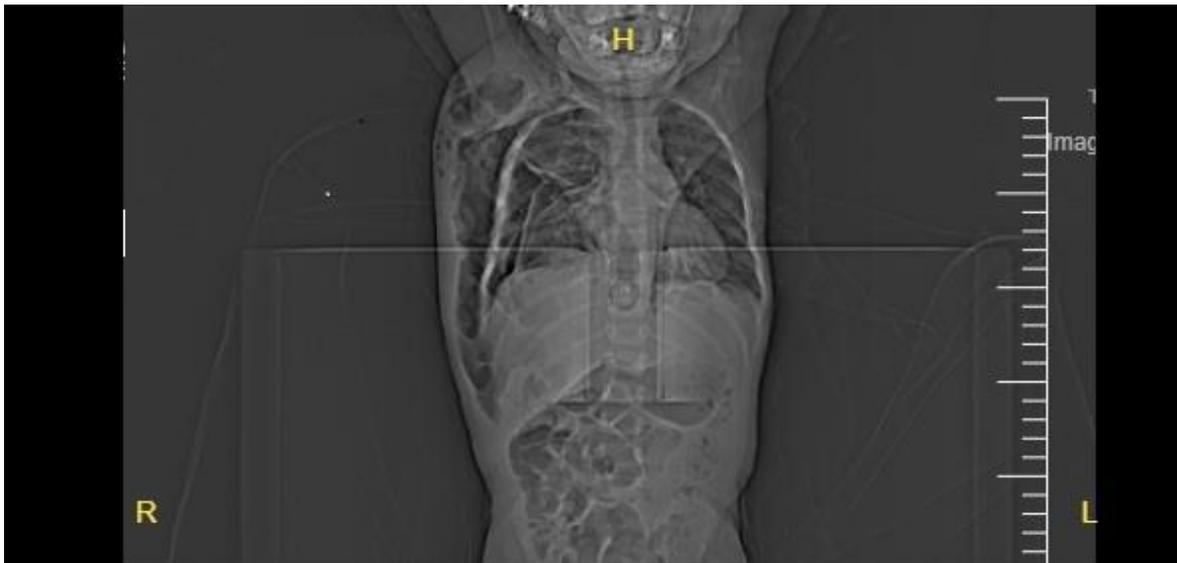


Figure 1. Pneumothorax and subcutaneous emphysema were seen in the right hemi-thorax

On the thorax tomography, pneumothorax, pleural effusion and rib fracture were reported on the right side. A pediatric surgical specialist was consulted and the patient was hospitalized with intravenous antibiotic therapy started of ceftriaxone (Unacefin® Yavuz Ilac San.Tic.A.S, Istanbul, Turkey) at a dose of 75 mg/kg/day. Under general anesthesia, the wound site was explored and the abscess pouch was irrigated. A hemovac drain was placed subcutaneously and a thorax tube was attached to closed underwater drainage. Then vacuum-assisted closure (VAC) was applied for 3 days at 75mmHg pressure. On the 11th day after admittance, the thoracic drain was removed and on the 27th day, the patient was discharged with no complications.

Discussion

Skin and soft tissue infection is a problem often encountered by ED doctors and pediatric surgeons. Treatment includes making an incision of approximately 1 cm on the skin for drainage and irrigation of the abscess and when necessary the placement of a mesh, then follow-up with antibiotic therapy (2, 3). There are many references in literature stating that pediatric group patients can be discharged following the necessary skin incision and drainage of skin abscess (5).

Unlike many cases of abscess and emphysema seen following rib fracture, in the current case, rib fracture and pneumothorax were observed as a result of abscess drainage performed by inexperienced healthcare personnel (6, 7).

Conclusion

Abscess drainage of patients presenting at ED performed by experienced physicians provides a significant reduction in potential complications. The complications that developed in this patient show the necessity of a more careful approach, especially in pediatric patients.

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Ethical issues: All Authors declare that Originality of research/article etc... and ethical approval of research, and responsibilities of research against local ethics commission are under the Authors responsibilities. The study was conducted due to defined rules by the Local Ethics Commission guidelines and audits.

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