Case Report
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Primary Spontaneous Hemopneumothorax: A Case Report

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Abstract

Spontaneous hemopneumothorax is a rare condition. Bleeding occurs in 0.5% to 12% of patients with spontaneous pneumothorax. Early diagnosis with appropriate imaging methods is important. In order to prevent possible complications of pneumothorax in patients who present to the emergency department with a complaint of shortness of breath. Clinically, if a patient with a pneumothorax suddenly develops unexplained symptoms of shock, SHP should be considered and treated as a life-threatening emergency.

Keywords: Spontaneous hemopneumothorax, pneumothorax, emergency medicine

Introduction

Pneumothorax is defined as the presence of air in the pleural space (1). Primary pneumothorax; is a type of pneumothorax that develops spontaneously. The rate of spontaneous hemopneumothorax (SHP) is 0.5-11.6% in patients with primary pneumothorax (2,3). Hemopneumothorax is the condition whichpresence of air and blood in the pleural space. It usually develops as a result of an injury of the vessels which is located between the leaves of the visceral and parietal pleura during the development of pneumothorax (4). Other causes include the rupture of well-vascularized bullae. The emergency intervention depends on the hemodynamic status, severity of symptoms, and degree of the pneumothorax. In patients presenting to the emergency department (ED) with the complaint of dyspnea, early diagnosis with appropriate imaging methods is important to prevent possible complications of pneumothorax (1).

Case Report

A 33-year-old male was admitted to the ED with a sudden dyspnea that started while walking. He had chest pain for two days and the pain increased this morning. There was no distinctive feature in his medical history except smoking 20 packs/year. His body temperature was 37.1, blood pressure was 137/94 mmHg, heart rate was 110 beats/min, respiratory rate was 18/min, SpO2 was 95% and Glasgow Coma Scale was 15 points. On physical examination, the respiratory sounds were decreased at the left lung. Other system examinations were normal. In the laboratory; the white blood cell count was 13.03 /µL, the hemoglobin value was 14.1 g/dl, and the platelet count was 303 /uL. Prothrombin time was 11.1 sec and the INR value was 0.97. The posteroanterior chest X-ray showed pneumothorax in the upper zone of the left lung and pleural effusion in the basal left lung (Figure 1). Thorax computed tomography showed bilateral pneumothorax, which was more prominent on the left, with bilateral diffuse bullae and left basal air-fluid level (Figure 2). A 28F tube thoracostomy was performed via the sixth intercostal space anterior axillary line of the patient by the thoracic surgeon. During tube thoracostomy, air outflow and approximately 150 cc of hemorrhagic fluid drainage were observed. Control X-ray showed normal ventilation of the lungs (Figure 3). During the follow-up in the thoracic surgery ward, the hemorrhage continued, and the patient underwent video-assisted thoracoscopic surgery for exploration. The patient was discharged on the fourth day with full recovery.

Discussion

Hemopneumothorax is a combination of two medical conditions: pneumothorax and hemothorax. Spontaneous hemopneumothorax (SPH) is a rare condition and bleeding

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occurs in 0.5% to 12% of patients with spontaneous pneumothorax (SP). The most common cause of the disease; rupture of well-vascularized bullae (3,4). SPH is a medical emergency, so it's important to recognize its symptoms right away.

The appearance of the air-fluid line in radiological examinations, the presence of hemorrhagic effusion, and the development of shock findings in the patient may indicate spontaneous hemopneumothorax. The diagnosis of SHP depends on the recognition of sudden chest pain, shortness of breath, shock, and localized clinical signs in the chest. There are no prepared guidelines for the management of patients with SHP. The goals of treatment include resuscitation, hemostasis, and re-expansion of the lung. Initial treatment after prompt diagnosis of patients is adequate fluid replacement and drainage of the pleural space. Therefore, early diagnosis and treatment are important (5).

References

1. Bintcliffe O, Maskell N. Spontaneous pneumothorax. BMJ. 2014;8:348.
2. Huang YH, Chang PY, Wong KS, Chang CJ, Lai JY, Chen JC. An age-stratified longitudinal study of primary spontaneous pneumothorax. J Adolesc Health. 2017;61(4):527–32
3. Chen Y, Guo Z. Unusual case of primary spontaneous hemopneumothorax in a young man with atypical tension pneumothorax: a case report. Journal of Medical Case Reports. 2018;12(1): 1-7
4. Hsu CC, Wu YL, Lin HJ, et al. Indicators of haemothorax in patients with spontaneous pneumothorax. Emerg Med J 2005; 22: 415–417.
5. Aragão AHM, Fonseca LA, Deulefeu FC, Medeiros IL, de Araújo RFV, da Cruz Neto CA, et al. Spontaneous hemopneumothorax: a rare cause of unexplained hemodynamic instability in a young patient. Case Rep Pulmonol. 2020; 23: 5026759