Case Report

A case of spontaneous pneumomediastinum presented with subcutaneous emphysema only

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Abstract

Subcutaneous emphysema with spontaneous pneumomediastinum is a rare benign condition, which, if diagnosed early, can be managed conservatively. We present a case of young woman who showed subcutaneous emphysema without any precipitating factors was found to reveal spontaneous pneumomediastinum and treated conservatively with rest, analgesics, and oxygen therapy.

KEY WORDS: Subcutaneous emphysema, spontaneous pneumomediastinum, computerized tomography

Introduction

The occurrence of free air in the mediastinum is known as mediastinal emphysema or pneumomediastinum. Nontraumatic rupture of marginal pulmonary alveoli, which enables air to travel along interstitial and vascular routes, is the major recurrent cause.[1] This is called as spontaneous pneumomediastinum (SPM), in which no underlying disease is demonstrable (first described by Hamman in 1939).[2] It is common in young adults. The occurrence of SPM is noted to be approximately 1 in 30,000 emergency department (ED) referrals.[3] SPM with subcutaneous emphysema is rare benign condition, which should be diagnosed with the high degree of suspicion.[4–6] Clinical diagnosis can be made by the triad of chest pain, dyspnea, and subcutaneous emphysema. Radiological investigations such as X-ray and computerized tomography of neck and thorax are needed to confirm the diagnosis. Few aggravating triggers are excessive coughing, vomiting, heavy lifting, barotrauma, and so on. It is essential to diagnose early as it can lead to severe catastrophe if misdiagnosed and associated with mediastinal organ injury. Treatment would be conservative with adequate rest, oxygen therapy, and analgesics if no mediastinal organ injury is found.

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Figure 1: Chest X-ray showing subcutaneous emphysema.

Figure 2: Pneumomediastinum with subcutaneous emphysema.

Figure 3: Chest X-ray showing no subcutaneous emphysema and pneumomediastinum.

Case Report

We present a case of a 28-year-old housewife presented to ED of our hospital with throat pain, swelling over neck, thorax, and upper limbs, and breathlessness on moderate exertion for last 12 h. She also revealed pain in the above-mentioned areas, and there was no history of cough or vomiting. She was conscious, and on examination, tachycardia and tachypnea was present along with subcutaneous emphysema over neck, thorax, and upper limbs. Rest of the examinations was at normal limits. So, an emergency chest X-ray and computerized tomography of neck and thorax were planned, which suggested pneumomediastinum with subcutaneous emphysema [Figures 1 and 2], and patient was treated conservatively with rest, analgesics, and oxygen therapy. Patient recovered well without any complications, and repeat chest X-ray showed resolution of the subcutaneous emphysema [Figure 3].

Discussion

SPE can present with nonspecific signs and symptoms without any cause but usage of few modern and less-invasive techniques enables early diagnosis.[5] Computerized tomography scan is considered as the gold standard method for the diagnosis of SPM.[7,8] Causative factors of SPM are less clear although some of the trigger factors such as asthma attack, barotrauma, intrathoracic pressure increase, valsalva maneuver, and withdrawal symptoms of illicit drugs are known.[7] Ideally, various differential diagnosis such as esophageal rupture and other mediastinal organ injury must be kept in mind and ruled out. Serious complication such as tension pneumomediastinum with tension pneumothorax can occur but are very rare. The treatment consists of rest, analgesics, close observation, and oxygen therapy.

Conclusion

Thus, if a patient without any preceding symptoms and comorbid conditions present with subcutaneous emphysema, SPM must be kept in mind and evaluated as early as possible with awareness that there is possibility of mediastinal organ injury. Thus, early suspicion and intervention in this case helped us to manage it successfully.

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