A 17-year-old previously healthy boy presented to our emergency department with a complaint of sudden-onset, left-sided, sharp, constant chest pain without radiation after playing table tennis. He reported the severity of pain to be 7 on a 10-point pain scale. On examination, he appeared uncomfortable. The patient’s vital signs were as follows: blood pressure: 136/82 mm Hg; heart rate: 88 beats/min; respiratory rate: 20 breaths/min; oxygen saturation on room air, 100%; and he was afebrile. Physical examination revealed no decrease breathing sound or cardiac murmur. The electrocardiogram (ECG) was unremarkable.

The chest radiograph showed linear air densities over bilateral lower neck and upper mediastinum regions (Figure 1A). High Resolution Computed Tomography (HRCT) disclosed the presence of extra-luminal gas within the mediastinum and soft tissue emphysema over right upper chest and lower neck regions (Figure 1B). According to the clinical presentation and image findings, a diagnosis of spontaneous pneumomediastinum (SPM) was made. The patient’s pain gradually resolved with ibuprofen and oxygen supplement and the recovery was uneventful.

SPM is an uncommon and primarily benign finding in younger male patients without a history of an obvious precipitating event. Despite its low incidence, SPM should be considered in the differential diagnosis of acute chest pain especially in young population. The diagnostic and therapeutic protocol of SPM differs from other disease with similar symptoms.

Figure 1. Chest radiograph showed linear air densities over bilateral lower neck and upper mediastinum regions (A). HRCT disclosed the presence of extra-luminal gas within the mediastinum and soft tissue emphysema over right upper chest and lower neck regions (B).
clinical manifestations.\(^1\) Chest radiographs are generally useful for diagnosing PM, although there are cases of false-negative results. The 64-slice helical CT is more reliable than CXRs for diagnosing SPM.\(^2\)

In our case, the chest radiograph demonstrates linear air densities over bilateral lower neck and upper mediastinum region and pneumomediastinum should be taken as a major concern. The definite diagnosis was established by the HRCT.

SPM is self-limiting and usually responds well to conservative treatment.\(^3\)

Mediastinal organ injury in patients with pneumomediastinum is uncommon. Adolescent patients with SPM can be treated with symptomatic treatment and hospitalization or further studies were not needed.\(^4\)

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References


