

Case	(116) Cocaine-related pneumomediastinum secondary to macklin effect
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CASE PRESENTATION

A 17-year-old man came to the emergency department with dyspnea. He denied trauma, recent vomiting, heavy lifting or coughing and he had not relevant medical history.

He had sporadically inhaled cocaine and he said that he had consumed for the last time a few hours ago.

Oxygen saturation was 93% on air and he was tachypneic (28 bpm). Physical examination showed subcutaneous crepitation in neck and myotonic pupils. Chest X-ray showed pneumomediastinum, and subcutaneous emphysema.

CT confirmed the findings. Interstitial emphysema around bronchus and pulmonary blood vessels at lower pulmonary lobes and fissures, especially on the right side, was observed. There were not signs of pneumothorax or pleural effusion.

DISCUSSION

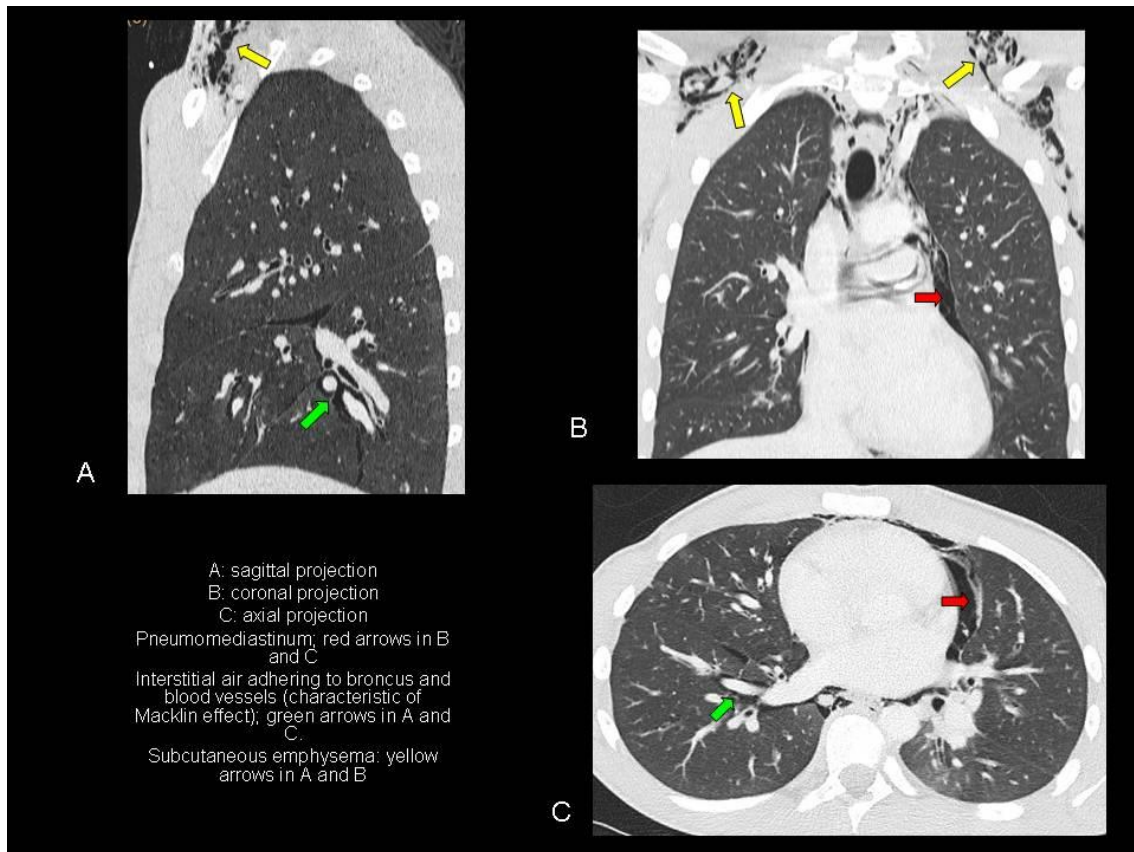
CT showed pneumomediastinum with characteristic findings of Macklin effect, which is described as an alveolar rupture with air dissecting along the peribronchovascular interstitial sheaths, interlobular septa and the visceral pleura into the mediastinum. In most cases, the alveolar rupture is traumatic but not exclusively.

Consumption of drugs which produces increased intrathoracic pressure can trigger the Macklin effect in patients with predisposing factors. The consumption of inhaled cocaine is not only considered a triggering factor but also a predisposing factor, due to diffuse alveolar damage, hemorrhage and bronchospasm caused by occasional consumption ?

CONCLUSION

Spontaneous pneumomediastinum is a pathology that occurs mainly in young male patients with predisposing factors such as asthma, chronic obstructive pulmonary disease, interstitial lung diseases and consumption of inhaled drugs.

Macklin effect is a frequent mechanism of pneumomediastinum due to alveolar rupture. In most cases it is secondary to thoracic trauma but also can be seen in cases of increased intrathoracic pressure such as consumption of inhaled cocaine. 7.



BIBLIOGRAPHY

- Rubio Sanchez J. M, Bioque Rivera J. C, Feu Collado N, et al. Neumomediastino espontáneo en un fumador de base libre de cocaína ("crack") Revista Española de Patología Torácica. NEUMOSUR, 2000; 12, 4: 233-235.
- Sakai M, Murayama S, Gibo M et al. Frequent cause of the Macklin effect in spontaneous pneumomediastinum. Demonstration by multidetector-row computed tomography. J Comput Assist Tomogr 2006; 30: 92-94.