

[ PICTURES IN CLINICAL MEDICINE ]

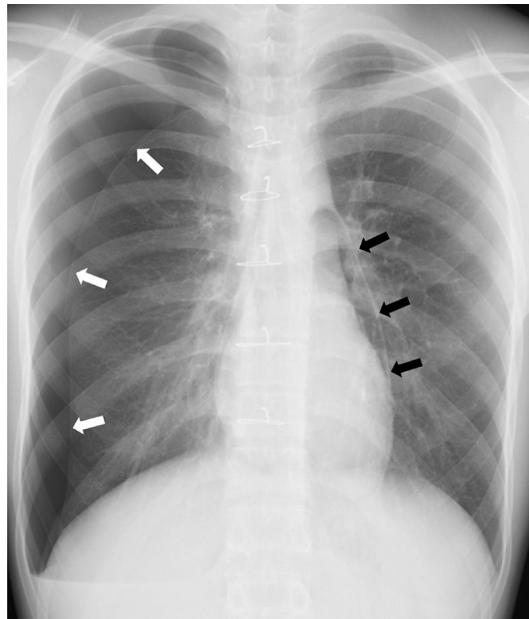
## Pneumothorax and Pericardial-mediastinal Emphysema

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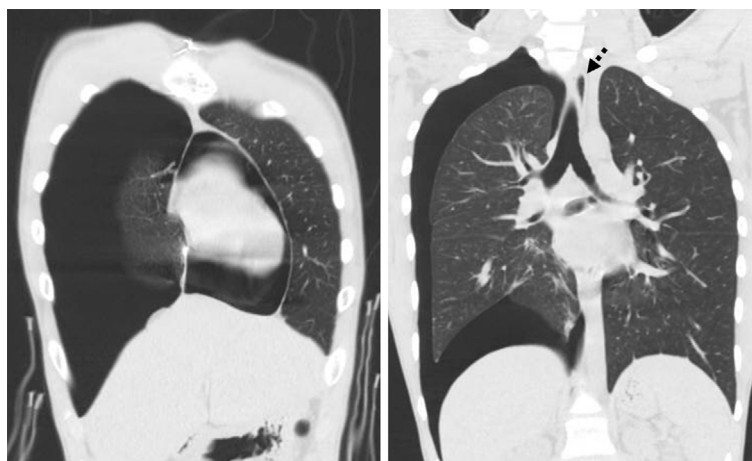
**Key words:** Bruit de Moulin, Hamman's sign, pericardial-mediastinal emphysema, pneumothorax

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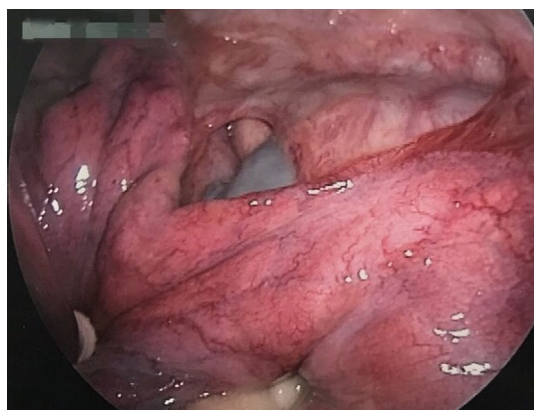


Picture 1.



Picture 2.

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**Picture 3.**

A 16-year-old boy presented with sudden-onset chest pain. Six months prior to admission, he had undergone surgery for a mediastinal teratoma, and a small part of the teratoma's adherent pericardium had been resected without suturing. His vital signs were unremarkable. A physical examination revealed diminished right-side breath sounds and Hamman's sign (1). Distinctive auscultations called "Bruit de Moulin (mill-wheel murmur)" (2), which are resonant heart sounds with a tinkling superimposed over a succession splash, were also detected. Chest radiography (Picture 1) revealed right-side pneumothorax (white arrows) and pneumopericardium (black arrows), and chest computed tomogra-

phy (Picture 2) additionally revealed pneumomediastinum (dotted arrow). The patient underwent three-port video-assisted thoracoscopic surgery (VATS). Two small bullae, including one ruptured bulla in the apical segment of the right upper lobe, and a pericardial deficit on the upper pulmonary hilum were observed (Picture 3). Bullectomy and pleural covering with a polyglycolic acid sheet were performed. Based on these findings, he was diagnosed with pericardial-mediastinal emphysema due to pericardial fistula-associated pneumothorax. His symptoms resolved with recovery from pneumothorax, and he was discharged home on postoperative day 13.

**The authors state that they have no Conflict of Interest (COI).**

### References

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2. Cummings RG, Wesley RL, Adams DH, Lowe JE. Pneumopericardium resulting in cardiac tamponade. *Ann Thorac Surg* **37**: 511-518, 1984.

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