

Spontaneous hemothorax in neurofibromatosis type 1: a rare case of intercostal artery aneurysm rupture and the role of permissive hypotension, case report

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This case report describes the successful management of a rare spontaneous hemothorax caused by rupture of a left intercostal artery aneurysm in an undiagnosed patient with neurofibromatosis type 1. A 44-year-old man presented with acute left-sided chest pain, and initial imaging suggested a pleural mass and a high-density pleural effusion. Contrast-enhanced CT identified a 15 × 10 mm aneurysm of the left 10th intercostal artery with active bleeding. The patient experienced a rapid hemoglobin drop and progressed to hemorrhagic shock. Resuscitation included blood transfusion, vasopressor support, and a permissive hypotension strategy targeting a mean arterial pressure above 65 mm Hg to limit ongoing hemorrhage while preparing definitive control. Urgent endovascular intervention via right femoral access allowed selective catheterization and coil embolization of the feeding intercostal artery, achieving immediate hemostasis. An intercostal drain was placed, and the patient was monitored in the ICU; he stabilized, was transferred to the ward, and discharged with a stable hemoglobin. At five-month follow-up, he remained asymptomatic with no recurrent hemothorax. The report highlights the importance of considering NF-1–related vascular lesions in spontaneous hemothorax, the role of tailored resuscitation, such as permissive hypotension, to minimize rebleeding, and the effectiveness of minimally invasive coil embolization within a multidisciplinary care pathway.

Keywords: Hemothorax, Neurofibromatosis, NF-1, Intercostal artery aneurysm, Coil embolization, Permissive hypotension, Chest pain.

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List of abbreviation

IR interventional radiology
NF-1 Neurofibromatosis type 1

Conflict of interests

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Consent for publication

Written informed consent was obtained from the patient.

Ethical Approval

Ethical approval is not required at our institution to publish an anonymous case report.