



Transfusion-related acute lung injury: an uncommon cause of pulmonary edema

Edson Marchiori¹, Bruno Hochhegger², Gláucia Zanetti¹

A 14-year-old girl with the diagnosis of hereditary spherocytosis was admitted to the emergency department with intense fatigue, episodes of dizziness, and palpitations. A blood count revealed that the patient's hemoglobin level was 7.0 g/dL and her hematocrit was 23%. Blood transfusion was performed, with the patient receiving 300 mL packed red blood cells. Two hours later, she presented fever, cough, tachypnea, cyanosis, and hypotension. Her oxygen saturation level in room air was 93.9%. She also presented hypoxemia (pO_2 : 65.8). A chest X-ray showed bilateral consolidations (Figure 1A). CT scanning revealed bilateral ground-glass opacities associated with interlobular septal thickening and bilateral pleural effusion (Figures 1B–1D). The diagnosis of transfusion-related acute lung injury (TRALI) was suggested. After 12 days of hospitalization, she presented good evolution, with significant clinical and radiological improvement.

TRALI is a severe post-transfusion reaction that manifests as acute lung injury occurring during or within 6 h after

blood transfusion. CT may show irregular opacities, which can progress to bilateral interstitial and alveolar infiltrates. These findings, although nonspecific and usually indistinguishable from those of hydrostatic pulmonary edema, suggest the diagnosis of TRALI in the clinical context of recent transfusion of blood products.⁽¹⁻³⁾ In conclusion, the diagnosis of TRALI syndrome needs to be considered in patients who develop sudden respiratory distress after blood transfusion.

AUTHOR CONTRIBUTIONS

All of the authors equally contributed to the writing and reviewing of the manuscript and approved the final version of the manuscript.

CONFLICTS OF INTEREST

None declared.

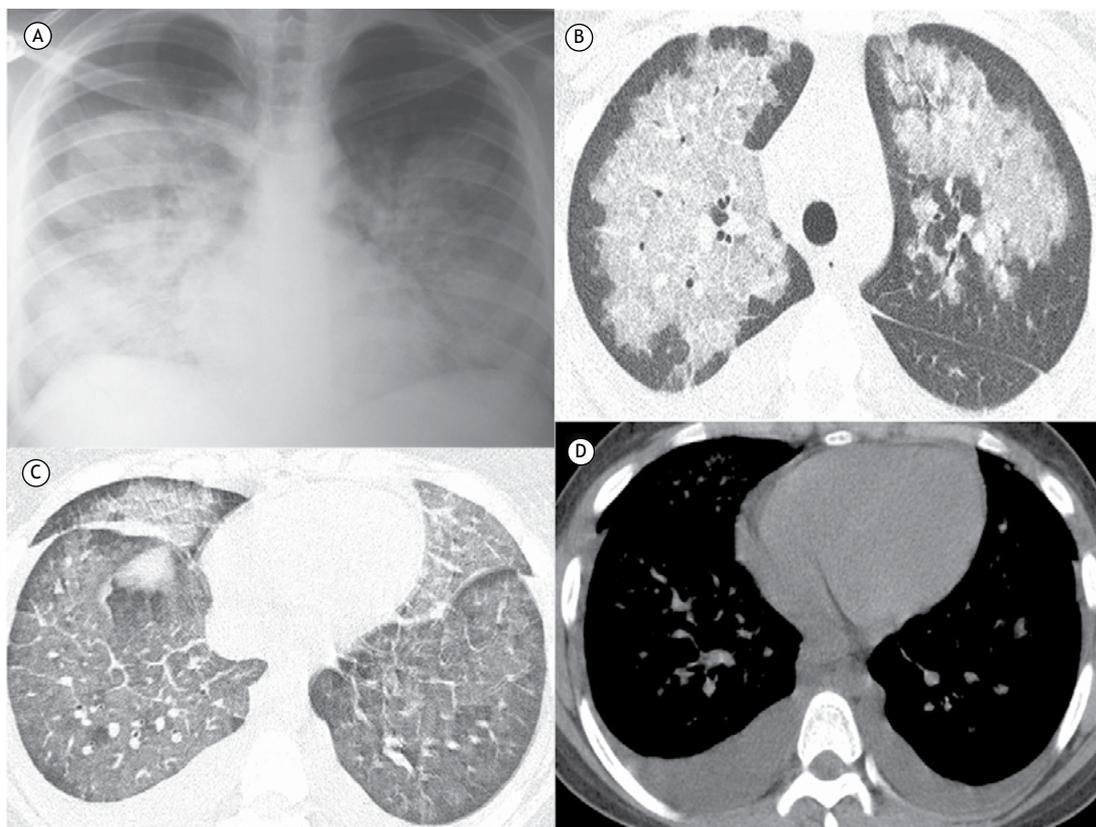


Figure 1. In A, a chest X-ray showed bilateral consolidations, predominantly in the central regions of the lungs. In B–D, CT scans revealed bilateral ground-glass opacities, predominantly in the central portions of the lungs, associated with interlobular septal thickening and bilateral pleural effusion.

1. Universidade Federal do Rio de Janeiro, Rio de Janeiro (RJ) Brasil.
2. University of Florida, Gainesville, FL, USA.

REFERENCES

1. Carcano C, Okafor N, Martinez F, Ramirez J, Kanne J, Kirsch J. Radiographic manifestations of transfusion-related acute lung injury. *Clin Imaging*. 2013;37(6):1020-1023. <https://doi.org/10.1016/j.clinimag.2013.06.008>
2. Vlaar AP, Juffermans NP. Transfusion-related acute lung injury: a clinical review. *Lancet*. 2013;382(9896):984-994. [https://doi.org/10.1016/S0140-6736\(12\)62197-7](https://doi.org/10.1016/S0140-6736(12)62197-7)
3. Kolnagou A, Kontoghiorghe CN, Kontoghiorghes GJ. Transfusion-Related Acute Lung Injury (TRALI) in two Thalassaemia Patients Caused by the Same Multiparous Blood Donor. *Mediterr J Hematol Infect Dis*. 2017;9(1):e2017060. <https://doi.org/10.4084/MJHID.2017.060>