Clinical Case Study

Milky Pleural Fluid

Jean-Baptiste Oudart,1,2* Charles Pax,1 Badria Bennani-Smires,1 and Laurent Ramont1,2

1 Centre Hospitalier Universitaire de Reims, Laboratoire Central de Biochimie, Reims, France; 2 Université de Reims Champagne-Ardenne, UMR CNRS 7369, Matrice Extracellulaire et Dynamique Cellulaire (MEDyC), Reims, France.

* Address correspondence to this author at: Centre Hospitalier de Reims, Avenue du général Koenig, Reims, France 51092. Fax +33-326588539; e-mail joudart@chu-reims.fr.

CASE DESCRIPTION

A 90-year-old man was admitted for progressive dyspnea. His medical history included hypertension and chronic myeloid leukemia diagnosed 10 years before and treated with dasatinib. Physical examination revealed pitting edema of the legs and dullness to percussion in the right chest. Laboratory test results were clinically relevant for white blood cells $7.7 \times 10^9/L$ (reference interval $4–10 \times 10^9/L$), platelets $162 \times 10^9/L$ ($150–400 \times 10^9/L$), hemoglobin 10.5 g/dL ($13–18$ g/dL), total protein 7.1 g/dL ($6.3–8.1$ g/dL), cholesterol 154 mg/dL ($116–201$ mg/dL) [$3.99$ mmol/L ($3–5.2$ mmol/L)], triglycerides 122 mg/dL ($27–151$ mg/dL) [$1.38$ mmol/L ($0.3–1.71$ mmol/L)], creatinine 192 µmol/L ($45–90$ µmol/L), and lactate dehydrogenase (LDH) activity 504 U/L ($200–450$ U/L). Chest radiograph showed a large right-sided pleural effusion; thoracentesis yielded milky pleural fluid with total protein 4.3 g/dL, LDH activity 291 U/L, cholesterol 66 mg/dL ($1.7$ mmol/L), and triglycerides 259 mg/dL (2.9 mmol/L). Bacterial cultures had no growth. After 12 h at 4 °C, the pleural fluid had a white ring at the top of the sample (Fig. 1).

![Image of pleural fluid](image-url)

**Fig. 1.** The patient’s pleural fluid after 12 hours at 4 °C.
Final Publication and Comments
The final published version with discussion and comments from the experts will appear in the February 2016 issue of Clinical Chemistry. To view the case and comments online, go to http://www.clinchem.org/content/vol62/issue2 and follow the link to the Clinical Case Study and Commentaries.

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QUESTIONS TO CONSIDER

- What are the steps for evaluating pleural effusions?
- Which diagnosis should be considered in cases of milky pleural fluid?
- What is the main component of the white ring that appeared after 12 h at 4 °C?