

Milky Pleural Fluid

Jean-Baptiste Oudart,^{1,2*} Charles Pax,¹ Badria Bennani-Smires,¹ and Laurent Ramont^{1,2}

¹Centre Hospitalier Universitaire de Reims, Laboratoire Central de Biochimie, Reims, France; ²Université 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 $4\text{--}10 \times 10^9/L$), platelets $162 \times 10^9/L$ ($150\text{--}400 \times 10^9/L$), 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 $\mu\text{mol/L}$ (45–90 $\mu\text{mol/L}$), 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).

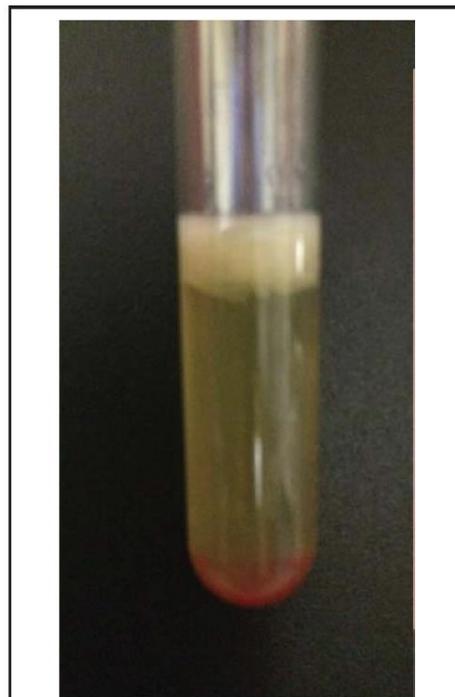


Fig. 1. The patient's pleural fluid after 12 hours at 4 °C.

QUESTIONS TO CONSIDER
<ul style="list-style-type: none">• What are the steps for evaluating pleural effusions?
<ul style="list-style-type: none">• Which diagnosis should be considered in cases of milky pleural fluid?
<ul style="list-style-type: none">• What is the main component of the white ring that appeared after 12 h 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.

Educational Centers

If you are associated with an educational center and would like to receive the cases and questions 1 month in advance of publication, please email clinchem@aacc.org.

All previous Clinical Case Studies can be accessed and downloaded online at <https://www.aacc.org/publications/clinical-chemistry/clinical-case-studies/2016-clinical-case-studies>.

AACC is pleased to allow free reproduction and distribution of this Clinical Case Study for personal or classroom discussion use. When photocopying, please make sure the DOI and copyright notice appear on each copy.

AACC is a leading professional society dedicated to improving healthcare through laboratory medicine. Its nearly 10,000 members are clinical laboratory professionals, physicians, research scientists, and others involved in developing tests and directing laboratory operations. AACC brings this community together with programs that advance knowledge, expertise, and innovation. AACC is best known for the respected scientific journal, *Clinical Chemistry*, the award-winning patient-centered web site *Lab Tests Online*, and the world's largest conference on laboratory medicine and technology. Through these and other programs, AACC advances laboratory medicine and the quality of patient care.