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Photo Quiz: A 69-Year-Old Immunosuppressed Male with Chest Pain and Shortness of Breath

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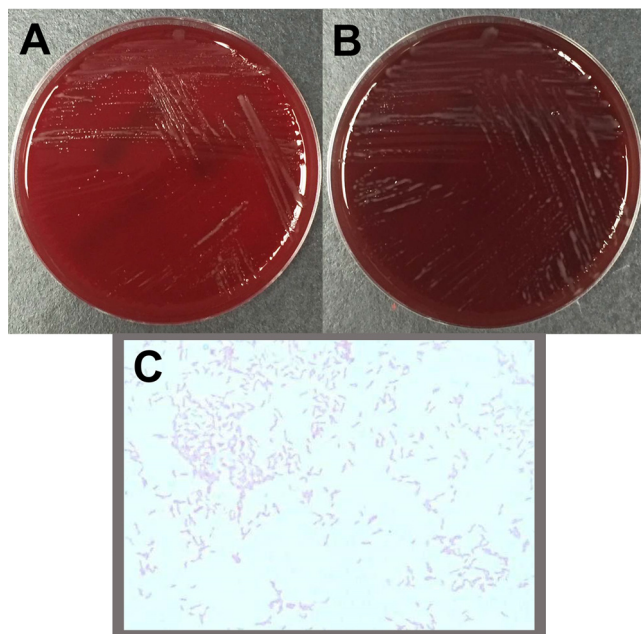


FIG 1 (A) Subculture of initial growth (recovered from CDC anaerobic blood agar) onto tryptic soy agar with 5% sheep blood. (B) Tandem subculture of initial growth onto CDC anaerobic blood agar. (C) Gram stain of isolated colonial growth; total magnification, $\times 1,000$.

A 69-year-old male presented to the emergency department for evaluation of right-side lower chest pain. The patient had been diagnosed with an aggressive form of diffuse large B-cell lymphoma 5 months previously and had received five rounds of a rituximab-EPOCH (etoposide, prednisolone, oncovin, cyclophosphamide, and hydroxydaunorubicin) chemotherapeutic regimen. Clinical management was complicated by several hospitalizations for neutropenic fever, renal failure, depression, and pleural effusions. The patient's past medical history was also significant for atrial fibrillation. The patient had a chronic pleural catheter that was drained as needed. One hospitalization within the previous month had managed a symptomatic pneumonia without an isolated etiology. Trimethoprim (160 mg)-sulfamethoxazole (800 mg) was prescribed for daily prophylaxis.

Upon demonstration of high-grade fever (maximum temperature, 102°F) and leukocytosis (22,800 leukocytes/ μl [upper limit of normal range, 10,000 leukocytes/ μl] with

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For answer and discussion, see page 3311 in this issue (<https://doi.org/10.1128/JCM.03280-15>).

a left shift), the man was admitted to the inpatient service by his oncologist. Additional vital signs upon admission included tachycardia (102 beats per minute), a blood pressure of 177/141 mm Hg, and a respiratory rate of 18 breaths per minute. Intravenous cefepime and vancomycin therapy had previously been initiated in the emergency department following the collection of two sets of blood cultures (BD Bactec Plus Aerobic/F and BD Bactec Lytic/10 Anaerobic/F culture vials incubated on Bactec FX [Becton Dickinson, Sparks, MD]). No cough or sore throat was reported; pleuritic pain was demonstrated with deep breathing. A chest X-ray examination revealed slight blunting of the right costophrenic angle compatible with a small residual right pleural effusion and residual airspace opacity in the adjacent lower lobe. The patient had experienced two bouts of diarrhea the previous evening but denied nausea, vomiting, and abdominal pain. Initial laboratory data were significant for a decreased platelet count (144,000/ μ l; lower limit of normal range, 150,000/ μ l), a serum albumin level of 2.9 g/dl (lower limit of normal range, 3.2 g/dl), and a serum total protein level of 5.0 g/dl (lower limit of normal range, 6.2 g/dl), with elevated serum glucose (109 mg/dl; upper limit of normal range, 99 mg/dl). A reported hematocrit of 33.0% was interpreted as the baseline for this patient. The serum digoxin concentration was within normal limits. The pulse oximetry was 92% without supplemental oxygen.

A pleural fluid collected upon admission yielded a pH of 7.55, a total protein level of 2.7 g/dl, a lactate dehydrogenase level of 374 U/liter, and a glucose level of 102 mg/dl (no reference ranges were established from this specimen source). A total of 8,856 nucleated cells were enumerated (98% neutrophils). Culture analysis exhibited no turbidity in cooked meat broth with glucose and no colonies on tryptic soy agar with 5% sheep blood (blood agar), chocolate agar, colistin nalidixic acid agar, MacConkey agar, and anaerobic blood agar with kanamycin and vancomycin selective agents. Following 48 h of anaerobic incubation, 10 to 15 colonies were observed only on CDC anaerobic blood agar. Gram staining of these moist, watery colonies (Fig. 1A and B) revealed faintly staining, curved Gram-negative bacilli (Fig. 1C).