A Soldier with Traumatic Brain Injury and Meningitis
(See pages 1675–6 for the Answer to Photo Quiz)

Figure 1. Gram stains of CSF (1a and 1b), sputum (1c), and blood (1d). (Original magnification for all images, ×1000.)

A 24-year-old white male US soldier without significant past medical history sustained a traumatic brain injury from an improvised explosive device while on duty in Baghdad, Iraq. He was operated on emergently at the Combat Support Hospital in Iraq to perform craniectomy, hematoma evacuation, ventriculostomy with external drainage, and tracheostomy. The patient required frontal and temporal decompressive lobectomies, and he had sustained massive hemorrhage from a cav-
ernous sinus laceration. Empirical therapy with clindamycin and ceftriaxone was started, and the patient was air-evacuated emergently to Walter Reed Army Medical Center (Washington, D.C.).

Three days after the injury, the patient had a temperature of 39.5°C without localizing signs or symptoms. Initial CSF studies demonstrated no organisms, but 3 days later the CSF WBC count had increased to 239 cells/mm³ (with 91% polymorphonuclear neutrophils), the glucose level was 54 mg/dL, the protein level was 262 mg/dL, and organisms were noted.

On the basis of the CSF Gram stains shown in figure 1, what is your diagnosis? What would you recommend for empirical therapy? (Here is a clue: the pathogen has been commonly isolated from soldiers injured during Operation Iraqi Freedom.)