An Unusual Bacterium Causing a Brain Abscess

To the Editor: Intracranial abscesses are an important cause of illness and death in a neurologic/neurosurgical unit. Early presumptive clinical diagnosis supported by radiologic evidence (computerized axial tomography [CAT] scan and magnetic resonance imaging) is the mainstay of diagnosis (1). Abscess contents are aspirated under stereotaxic guidance and cultured to isolate causative organisms and determine their antibiotic sensitivities. Organisms isolated from brain abscesses are usually streptococci, anaerobic and facultative gram-negative bacilli, staphylococci, or pseudomonads (2).

A 24-year-old male farmer came to us with progressive headache, dizziness, and a low-grade fever of 2 weeks’ duration. He had had a pimple on his right cheek approximately 3 weeks before, which had discharged “bluish” pus on forcible evacuation and subsequently healed without treatment. No focal neurologic signs were detected on physical examination. Because an intracranial space-occupying lesion was suspected, a lumbar puncture was withheld. Later, a CAT scan of the patient’s head revealed a right-sided temporoparietal space-occupying lesion approximately 3 cm in diameter, suggestive of a unilocular brain abscess. The abscess was needle aspirated under stereotaxic guidance, and the pus was cultured aerobically and anaerobically. After 24 hours of aerobic incubation on MacConkey agar at 37°C, a pure growth of violet-colored colonies appeared, identified as *Chromobacterium violaceum* by the 20E API system (Biomerieux, France).

Other initial laboratory findings were as follows: blood leukocyte count, 16,200 cells/µL (84% neutrophils, 15% lymphocytes, 1% eosinophils); erythrocyte sedimentation rate (Westergren method), 22 mm/hour; C-reactive protein concentration, 96 mg/L; and fasting blood sugar concentration, 5.1 mmol/L. Blood urea and C-reactive protein concentrations after 3 weeks of antibiotic treatment were 4.6 mmol/L and <6 mg/L, respectively.

The organism was sensitive to imipenem and ciprofloxacin and resistant to cefotaxime and ceftriaxone, by the Stokes comparative disk-diffusion antibiotic sensitivity testing method (3). Ciprofloxacin (as lactate) was administered intravenously, 400 mg twice a day, for 4 weeks. Repeated CAT scans, clinical symptoms, and serial C-reactive protein levels indicated rapid regression of the abscess followed by complete cure.

*C. violaceum* is a gram-negative bacillus present in soil and aquatic environments of tropical and subtropical countries or regions such as Trinidad, Guyana, India, Malaysia, Florida, and South Carolina. It is a bacterium of low virulence, occasionally causing skin
Infections and disseminated disease involving multiple organs in immunocompromised patients. In such cases the disease can mimic septicemic melioidosis (4,5).

In this previously healthy patient, infection probably originated from the facial abscess. The patient was negative for HIV antibody (Serodia), had no history of diabetes mellitus or other compromising illnesses, and had no evidence of immunodeficiency. In a previous case of disseminated C. violaceum infection in a young patient, postmortem findings revealed numerous cortical infarcts and hemorrhages (6). Our isolate from a brain abscess is yet another case of a relatively avirulent saprophytic microorganism resulting in a deep-seated infection in a well-nourished, previously healthy person.

Dhammika Nanda Atapattu,*
Dhammika Priyal Jayawickrama,*† and
Vasanthi Thevanesam*
*University of Peradeniya, Peradeniya, Sri Lanka;
†General Hospital, Kandy, Sri Lanka

References

First Glycopeptide-Resistant Enterococcus faecium Isolate from Blood Culture in Ankara, Turkey

To the Editor: Glycopeptide-resistant enterococci infections are a major problem in hospitals. Infection or colonization by vancomycin-resistant enterococci was first reported in France (1) and the United Kingdom (2); since then, these organisms have been reported throughout the world. In Turkey, vancomycin and teicoplanin have been used to treat serious methicillin-resistant Staphylococcus aureus and ampicillin-resistant enterococci infections.

We describe the case of an acute myelocytic leukemia patient with vancomycin-resistant enterococci bloodstream infection. This is the first glycopeptide-resistant Enterococcus faecium isolate from our hospital and from Ankara, Turkey. The patient had not been cared for at another institution.

A 68-year-old man, hospitalized with acute myelocytic leukemia, had fever episodes during the neutropenia following three courses of remission-induction chemotherapy (daunorubicin+cytosine arabinoside). A combination of antibiotics including vancomycin, ceftazidime (sometimes imipenem), and amikacin was administered with different regimens during the 5 months of hospitalization. Blood, urine, and rectal swab cultures during this period were positive for different Enterobacteriaceae spp. but always negative for vancomycin-resistant enterococci. For long-term hospitalizations, our center routinely performs surveillance rectal swab cultures. At the end of month 5, E. faecium was isolated from the blood cultures, just 1 day before the patient’s death.

The strain was identified by conventional methods, commercial automatic systems (API Strep-Biomeriex, France), and polymerase chain reaction. Susceptibility patterns showed that the isolate was resistant to all antibiotics except ciprofloxacin and levofloxacin. When the E-test was used, MIC levels for vancomycin, teicoplanin, ciprofloxacin, and levofloxacin were 256 µg/mL, 64 µg/mL, 0.75 µg/mL, and 1.5 µg/mL, respectively. VAN-A1 and Van-A2 type resistance genes were detected by polymerase chain reaction. Hacettepe University microbiology laboratories confirmed these results (3,4).

After this strain was isolated, 1,266 stool and 176 rectal swab samples were taken from hospital personnel in three sessions >1 week apart, and patients were tested for vancomycin-resistant enterococci. Swab cultures from all environmental surfaces (bed rails, bedside commodes, carts, charts, doorknobs, faucet handles) were also examined. We injected all samples with 5% sheep blood agar with vancomycin (6 mg/L); vancomycin-resistant E. faecium was not identified in any sample.