

epidural abscess and meningitis can follow epidural or paraspinal glucocorticoid injections. In the United States and Canada, where early treatment of otitis and sinusitis is typical, ICEA is rare but the number of cases of SEA is on the rise. In areas with limited access to health care, SEAs and ICEAs cause significant morbidity and mortality. ICEAs typically present as fever, mental status changes, and neck pain, while SEAs often present as fever, localized spinal tenderness, and back pain. ICEAs are typically polymicrobial, whereas SEAs are most often due to hematogenous seeding, with staphylococci the most common etiologic agent. Early diagnosis and treatment, which may include surgical drainage, minimize rates of mortality and permanent neurologic sequelae. Outcomes are worse for SEA due to MRSA, for infection at a higher vertebral-body level, for impaired neurologic status on presentation, and for dorsal rather than ventral abscess location. Elderly patients and persons with renal failure, malignancy, and other comorbidities also have less favorable outcomes.

■ OTHER FOCAL SYNDROMES WITH A FULMINANT COURSE

Infection at virtually any primary focus (e.g., osteomyelitis, pneumonia, pyelonephritis, or cholangitis) can result in bacteremia and sepsis. Lemierre's syndrome—jugular septic thrombophlebitis caused by *Fusobacterium necrophorum*—is associated with metastatic infectious emboli (primarily to the lung but sometimes to the liver or other organs) and sepsis, with mortality rates of >15%. *Fusobacterium* bloodstream infections have been associated with occult gastrointestinal or genitourinary malignancy. TSS has been associated with focal infections such as septic arthritis, peritonitis, sinusitis, and wound infection. Rapid clinical deterioration and death can be associated with destruction of the primary site of infection, as is seen in endocarditis and in infections of the oropharynx (e.g., Ludwig's angina or epiglottitis, in which edema suddenly compromises the airway).

Rhinocerebral Mucormycosis (See also Chap. 218) Individuals with diabetes or immunocompromising conditions such as solid organ transplants or hematologic malignancies are at risk for