

Treatment of spinal infections

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This issue of *Neurosurgical Focus* is devoted to the treatment of spinal infections, a topic of great practical importance to all practicing neurosurgeons. Osteomyelitis, discitis, epidural abscess, and postoperative wound infections are a significant source of acute and chronic neurological deficit and spinal instability and morbidity. Although some infections can be diagnosed based on results of blood cultures or needle biopsy sampling, many require surgical intervention for both diagnosis and definitive treatment. Many infections (including postoperative ones) are indolent and the symptoms, radiographic signs, and physical findings can be subtle.

The development of antibiotic-resistant *Staphylococcus*, *Streptococcus*, and other bacterial strains has made current management challenging. Spinal infections often require long-term intravenous antibiotic or antifungal therapy and are associated with extended hospitalization time and loss of patient productivity. The goal of this issue is to add to our knowledge of the etiological features and pathogenesis of spinal infection, useful diagnostic modalities, the indications for medical-only compared with surgical management, and the expanding variety of surgical approaches, debridement strategies, and reconstruction/instrumentation techniques.

Over the past decade, there has been a tremendous growth in familiarity and expertise with surgical reconstructive techniques among neurosurgeons. Anterior discectomy or vertebrectomy with reconstruction/instrumen-

tation and improved posterior or posterolateral debridement and stabilization techniques have allowed aggressive treatment and early mobilization in patients who would have been relegated to prolonged bed rest in a previous era.

In this issue the reader will find an excellent summary of general principles pertaining to the medical and surgical treatment of infections by Quinones-Hinojosa, et al. Parkinson and Sekhon address the usefulness of magnetic resonance imaging and other modalities in the diagnosis of spinal infection. Acosta, et al., and Barnes, et al., comprehensively review the diagnosis and management of pyogenic osteomyelitis of the cervical spine. Mann, et al., present a 6-year prospective data collection of their experience in the management of discitis. An excellent description of the use of vascularized soft-tissue and bone grafts is included in the article by Hsieh, et al., on surgical strategies for osteomyelitis and epidural abscess.

In articles by Ogden and Kaiser; Walker, et al.; Lee, et al.; and others, readers will find extensive and readily applicable information about the use of spinal instrumentation in cases of spinal instability or cases in which surgical debridement creates instability requiring reconstruction. Readers will find interesting case reports of unusual infections such as those caused by *Scedosporium apiospermum* (German, et al.) and *Echinococcus* (spinal hydatidosis [Schnepper and Johnson]).