

## Advances in Surgical Treatment of Osteoporotic Fractures of the Spine

L H H Goh,\**MBBS, M Med, FRCR*, S B Tan,\*\**FAMS, FRCS (Edin), FRCS (Glas)*, J S C Liaw,\*\*\**BSc (Hons) Physiotherapy*

### Abstract

**Introduction:** To highlight recent advances in the management of osteoporotic compression fractures of the spine. **Methods:** A MEDLINE search was conducted from January 1975 to October 2001. **Keywords** included osteoporotic compression fractures, osteoporosis and spine fractures. **Results:** Osteoporotic fractures of the spine often cause significant morbidity to the elderly individual. Diagnosis requires a detailed history and physical examination and investigations are usually required to exclude other causes of back pain. Magnetic resonance imaging (MRI) is often helpful in excluding other causes of pathologic fracture but may not be confirmatory. Conservative treatment was the traditional approach, but newer percutaneous treatments, such as vertebroplasty and kyphoplasty, are safe and simple day surgery procedures which allow for rapid recovery of symptoms and prevention of increasing spinal deformity. Neurological deficit as a result of spinal canal compromise from retropulsed fragments, though relatively uncommon, is well recognised as a cause of significant morbidity and is a major indication for open spinal surgery. Various spinal approaches including anterior or posterior decompression combined with a variety of stabilisation techniques have been reported in the literature. Rehabilitation is often required to improve physical function. **Conclusions:** Osteoporotic fractures of the spine are a common cause of morbidity in the elderly. Patients who have persistent pain despite conservative treatment require investigation to exclude other pathological causes of fracture. Percutaneous vertebroplasty and kyphoplasty are new techniques that offer much promise in the treatment of these elderly patients. Open surgery may still be required where there is significant neurologic compromise.

*Ann Acad Med Singapore 2002; 31:623-30*

**Key words:** Bone cement, Osteoporosis, Spinal instrumentation, Vertebral compression fracture, Vertebroplasty

---

\* Registrar

Department of Diagnostic Radiology  
Tan Tock Seng Hospital

\*\* Senior Consultant

Department of Orthopaedic Surgery

\*\*\* Senior Physiotherapist

Orthopaedic Diagnostic Centre  
Singapore General Hospital

Address for Reprints: Dr Seang-Beng Tan, Department of Orthopaedic Surgery, Singapore General Hospital, Outram Road, Singapore 169608.

E-mail: sb@postone.com