

ROUNDUP³⁶⁰

Spine

Percutaneous vertebroplasty

■ Vertebroplasty is a much-debated procedure for patients with a vertebral compression fracture. Consequently, a paper from **Victoria (Australia)**, **Rochester** and **Seattle (USA)** makes good reading. Two multicentre, randomised controlled trials were undertaken, one in each country, with a total of 209 participants. The object was to compare percutaneous vertebroplasty with a placebo procedure using pain and function at one month post-procedure as the main outcome measure. Individual patient data meta-analysis from these two blinded trials failed to show an advantage of vertebroplasty over placebo. Indeed at one month those in the vertebroplasty group were more likely to be using opioids.¹ 360 agrees that these results do not support the hypothesis that selected subgroups would benefit from percutaneous vertebroplasty.

■ As if to further highlight the possible pitfalls of percutaneous vertebroplasty, a case report from **Beirut (Lebanon)** describes a case of anterior spinal cord syndrome in a 20-year-old man who had sustained pathological fractures of T8 and L1 without retropulsion of bony fragments into the vertebral canal. Immediately after the vertebroplasty the patient experienced total paralysis and loss of sensitivity to pain and temperature in both lower limbs. It appears that cement had leaked directly into the anterior spinal artery and had led to an irreversible paralysis.² A tragic case,

360 feels, and perhaps something clinicians should consider as part of their informed consenting process.

Caudal epidurals and lumbar radiculopathy

■ Caudal epidural injections are widely used in the management of chronic lumbar radiculopathy. A multicentred, blinded, randomised controlled trial into this therapy has recently been published and is clearly very welcome. Researchers from **Tromsø (Norway)** have looked at the efficacy of a caudal epidural steroid or saline injection in the short (six weeks), intermediate (12 weeks) and long term (52 weeks). Although there were 328 exclusions from their original total of 461 patients who initially presented, both groups improved after injection and there was no statistically significant difference between them. Some patients actually improved before injection. The conclusion? Caudal epidural steroid or saline injections are not recommended for chronic lumbar radiculopathy.³ 360 suspects that some practices may be turned upside down by this finding.

Biological treatments and the degenerate disc

■ An interesting review article on the emerging role of biological treatments in the management of intervertebral disc degeneration has recently been published from **Philadelphia (USA)**. The unique environment of the intervertebral disc does present challenges, be

they related to the development or delivery of biological therapies. The acceleration of cellular senescence and apoptosis in degenerate intervertebral discs has prompted the development of treatments based on replacing intervertebral disc cells using various cell sources. A number of ideas have been considered, including disc cell reimplantation, stem cell implantation, disc denervation, injection of therapeutic proteins and gene therapy. Degeneration leads to changes in the expression of matrix protein, cytokines, and proteinases, so the injection of growth factors and mitogens may help overcome these. Such treatments are presently being explored in animal studies. Meanwhile gene therapy is an elegant way of addressing changes in protein expression, although efforts to apply this technology to the degenerate intervertebral disc are still in their infancy.⁴ Watch this space, thinks 360. There will be plenty more detail to follow.

Herpes and back pain

■ Yet what about the cause of intervertebral disc degeneration? Is it all to do with *Anno Domini*? Perhaps not, suggests a paper from **Heraklion (Greece)**. Here, researchers proposed that disc degeneration might be caused by low-grade infection, the herpes virus in particular. They applied a polymerase-chain-reaction-based assay to screen for the DNA of eight different herpes viruses in 16 patients and two controls. The DNA

for at least one herpes virus was detected in 13 specimens (81.25%). *Herpes simplex virus type 1* was the most frequently detected (56.25%), followed by cytomegalovirus (37.5%). In two patients co-infection by both viruses was detected.⁵ 360 is very excited by this paper, as it appears to be the first unequivocal evidence of the potential role of herpes as a contributing factor in the pathogenesis of degenerative disc disease. Remember peptic ulceration? Could this be the first evidence of an orthopaedic *Helicobacter pylori* lookalike? Perhaps it could have been infection all along. Well done, Greece. Keep up the good work.

Indian implants – keeping the costs down

■ In this cost-driven healthcare era, a paper from **Mumbai (India)** makes for good reading. Indian spinal surgeons have to choose between foreign implants and Indian implants for their patients. For example, an Indian four-pedicle-screw rod construct costs \$US330, roughly one-third the price of a similar foreign device. About 60% of Indian patients simply cannot afford expensive foreign implants, yet there are little written data available on how these Indian implants fare. Consequently, the authors analysed the results of 1572 titanium pedicle screws used in 239 patients with a minimum one-year follow-up. Patients were divided into Indian and foreign implant groups. In the foreign implant group there was a single incident of implant failure

