Extradural abscess is a serious condition: unless diagnosis and treatment are prompt, permanent paraplegia, or even death, can occur [1]. The majority of cases occur spontaneously, but whenever such a complication follows extradural instrumentation and medication, the suspicion of cause and effect is great, although far from proven. Several mechanisms exist by which regional techniques might allow the introduction of infection into the vertebral canal: (1) poor aseptic technique; (2) direct spread from an adjacent area (e.g. tracking from the skin along the catheter path) [2]; (3) haematogenous spread in bacteraemic patients, where bleeding caused by needle and catheter trauma allows organisms to enter the space. The risk is particularly high after catheter insertion because the latter is a foreign body and may act as a nidus for infection. Because of these risks most practitioners would not consider using central blocks in patients with active bacterial infection without very good reason.

However, this issue of British Journal of Anaesthesia contains an article from Denmark which reviews 69 patients who received repeated extradural block for drainage, and subsequent dressing, of infected lesions, apparently without major sequelae [3]. The “indication” was the avoidance of repeat general anaesthesia, but the report begs many questions. Were there specific and absolute contraindications (assuming such exist) to general anaesthesia or is it simply routine for the authors to use extradural block in this type of patient? Why were catheters left in situ for so long (up to 37 days) for relatively minor conditions such as perineal and other lower body abscesses? Surely anaesthesia and analgesia for surgical procedures and repeated dressings could have been provided by systemic methods with less potential for serious complication? Does failure to develop an abscess rule out the presence of infection in the extradural space?

Some catheter tip cultures were positive and previous workers have found signs of infection in the extradural space after catheter insertion, these signs being absent in patients in whom no extradural instrumentation had been performed [4]. Although the signs of infection did not appear to be of clinical significance, repeated extradural injection in such patients runs the risk, in the event of an accidental dural tap, of carrying organisms into the ideal culture medium of the CSF. One patient in the series reported here did develop an infective complication (discitis at L4–L5 after catheter insertion at L2–L3), although this did not occur until day 42, the catheter having been removed after 2 days. Others have reported abscesses developing several spaces away from the injection site and up to 5 months later [1], but such infection could be metastatic and unrelated to the block. However, it is worth noting that the patient mentioned above had several surgical revisions and dressings after catheter removal without anaesthesia. This reinforces the question about the need for extradural block in such patients. In addition, seven of the 69 patients died in the follow-up period and there is no assurance that evidence of extradural abscess or prolonged infection was excluded at autopsy.

Despite these misgivings it is useful to accept that there were no clinically relevant extradural infections. Why might this have been so? First, the authors did not use the method in any patient receiving corticosteroid therapy. Extradural abscesses have been reported on many occasions after instrumentation in patients who were receiving systemic or extradural steroids and six of the 10 cases reported by Bromage were receiving steroids by some route [1]. Second, all injections were made in the lumbar region. Ngan Kee and colleagues suggested that a disproportionate number of abscesses followed thoracic extradural block [5]. The technique is potentially more difficult and greater trauma might lead to a small extradural haematoma which would form a locus for infection. Additionally, the thoracic space is narrower and in closer proximity to the spinal cord so that even a small space occupying lesion may be clinically relevant. Third, a transparent dressing was used to allow regular inspection of the insertion site. Any sign of infection was an indication for immediate removal, and replacement if necessary, of the catheter. This implies a degree of vigilance which may not be available in many hospitals.

So what is there to learn from this? The review is interesting in that it does show that extradural block may be performed in patients with ongoing infection without necessarily leading to clinically significant sequelae. However, this should not lead to complacency. Much concern has been expressed in recent years about extradural haematoma as a complication of central block [6], but in the past 5 yr there have been far more reports In this journal of infective sequelae [1, 4, 5, 7–12]. There is no evidence for a cause and effect relationship, but any decision on which technique to use in a particular patient should depend on an informed assessment of risks and benefits [13]. There are no absolutes in anaesthesia, but no risk is acceptable unless there is a very clear benefit.

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References