Fast-track surgery and the elderly

Editor—We read with interest the paper by Krenk and colleagues reporting postoperative delirium (PD) after fast-track surgery joint arthroplasty. As the authors mention and reference, age and length of stay are very important independent variables associated with PD. Therefore, a fundamental question is: how effective is fast-track surgery in the elderly? We can find no published data in this area.

We have prospectively collected data on 211 patients undergoing fast-track laparoscopic colorectal resections from two randomized controlled trials (one already published) and sub-analysed data on those patients 80 yr old or more (n=35) and compared this with patients aged <80 yr old (n=176). This is an older age group than Krenk and colleagues’ study (mean 70 yr). All our patients received oral carbohydrate loading, goal-directed fluid therapy, and early mobilization.

There was no difference in diagnosis between the two age groups. Compared with their younger counterparts, the elderly had significantly more co-morbidity, as reflected by higher ASA scores (P<0.0005) and median P-POSSUM scores (29 vs 25; P<0.0005). The median duration of surgery was lower in the elderly age group (80 vs 100 min; P=0.036) possibly related to a lower median BMI (26 vs 24; P=0.002). The median time fit for medical discharge was not significantly longer in the elderly group (2.8 vs 2.6 days; P=0.336), although time to actual discharge was longer (3.1 vs 2.8 days; P=0.027). There was no difference in major complications or readmissions between the two age groups.

In spite of elderly patients having a reduced physiological reserve and more co-morbidity, they appear to benefit from fast-track surgical programmes like their younger counterparts. A reduction in PD, as demonstrated here by, is surely one more reason why elderly patients should be recruited to these programmes for the benefits they confer.

Declaration of interest

None declared.

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Reply from the authors

Editor—We thank Drs Fawcett and colleagues for their comments on our study.1 We agree with their comments and appreciate their excellent results in fast-track laparoscopic colorectal surgery. However, despite these excellent results, we are not aware of any specific data regarding postoperative delirium in that setting, although, obviously, this may not have been a clinically significant problem with the short length of stay.

Declaration of interest

None declared.

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Anaesthesia and epilepsy

Editor—I thank the authors for the very informative review of anaesthesia and epilepsy.2 They mention the potential role of midazolam i.m. awaiting the results of the randomized controlled trial. The results of the recently published RAMPART trial2 present a robust way of managing epilepsy in the pre-monitory stage, by using i.m. midazolam to avoid delay in treatment. This is especially useful before arrival to hospital, since it can be quite challenging to gain i.v. access during a seizure.

The use of i.v. diazepam may have increased in the acute management of epilepsy after the prolonged shortage of lorazepam. Midazolam is routinely prescribed for endoscopic procedures and in accident and emergency for procedures such as reduction in joint dislocations. Patients often receive

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2 Benumof JL, Dagg R, Benumof R. Critical hemoglobin desaturation will occur before return to an unparalyzed state following 1 mg/kg intravenous succinylcholine. Anesthesiology 1997; 87: 979–82.

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up to 10 mg of i.v. midazolam for the above procedures, administered by non-anaesthetists. Yet, diazepam seems to be the drug of choice for treating seizures on the ward, when lorazepam is unavailable. Patients are at increased risk of a lowered consciousness/prolonged post-ictal phase after receiving bolus doses of i.v. diazepam 10 mg. Midazolam may be a better choice in these situations because of its shorter half-life when compared with diazepam, especially if advanced airway support can be avoided in the absence of other indications.

**Declaration of interest**

None declared.

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**Reply from the authors**

Editor—We thank Dr Patle for bringing our attention to the recent publication of results from the RAMPART study.1 We were unable to include these results in our review,2 as this trial was published after the review article was accepted for publication. The RAMPART study randomized 1023 patients with status epilepticus (SE) treated before arrival in emergency departments by emergency medical services to treatment with i.v. lorazepam and i.m. midazolam. Of these, 893 were included in the intention-to-treat analysis. The primary outcome measure, cessation of treatment without need for rescue therapy, was achieved in 329 of 448 subjects (73.4%) in the i.m. midazolam group and in 282 of 445 (63.4%) in the i.v. lorazepam group (absolute difference, 10%; 95% confidence interval, 4.0–16.1; P<0.001 for both non-inferiority and superiority). The two treatment groups had similar incidence of recurrence of seizures and need for tracheal intubation. The time to administration of medication was shorter with i.m. midazolam, and the time from administration to cessation of seizures was shorter with i.v. lorazepam. Adverse event rates were similar in the two groups.

We agree that the results of the RAMPART study should have a significant impact on the early management of seizures. As Dr Patle points out, lorazepam is not readily available in many UK hospitals, and i.v. diazepam is traditionally used as an alternative. The results of this study, while supporting the use of i.m. midazolam as a possible alternative, do not provide any information about the safety of this form of treatment compared with i.v. diazepam in the inpatient setting. However, a previous meta-analysis has suggested that midazolam by any route is superior to diazepam in terminating SE in children and young adults, with similar rates of respiratory suppression.3 We agree that i.m. midazolam should be considered as the first-line therapy for convulsive SE, especially in patients where i.v. access is difficult or delayed.

**Declaration of interest**

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**Continuous spinal anaesthesia and non-invasive ventilation for total knee replacement in a patient on home ventilation**

Editor—We report the case of a complex patient requiring anaesthesia for total knee arthroplasty. The 66-yr-old male has a history of childhood poliomyelitis resulting in partial paralytic and significant kyphoscoliosis with subsequent restrictive lung disease. His lung disease left him breathless at rest, unable to lie flat, and he required non-invasive ventilation (NIV) overnight. The forced expiratory volume was 0.9 litre in 1 s and forced vital capacity was 1.1 litre. The patient had also undergone spinal fusion surgery in the past. In order to investigate the possibility of central neuraxial block, a computed tomography (CT) with three-dimensional reconstruction of the lumbar spine was performed. This revealed complete fusion of T12–L2 spinous processes and left aspects of vertebral bodies, but the anatomy at L3–4 was relatively preserved (Fig. 1).

After a case conference, we decided that the insertion of an intrathecal catheter under X-ray guidance would be the safest option. This could also be continued into the postoperative period, therefore avoiding the need for opioids. In order to lie flat for the operation, the patient would use NIV. Should the insertion of a spinal catheter be unsuccessful, the procedure would be abandoned. The risk of a general anaesthetic was deemed too high in view of the uncertainty of prolonged postoperative ventilation and ability in weaning. A level 2 bed was booked for postoperative care.