avoiding any unnecessary compression points of the lower extremities; pulse oximeters on both feet are recommended and prolonged hypotension must be avoided.

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Watch your surgeon

The following three cases illustrate how morbidity could result from surgical techniques during monitored anaesthetic care. A 74-yr-old man had a cardiac pacemaker implanted under infiltration anaesthesia with a total of 80 ml plain lidocaine 0.5%. This resulted in a dense motor and sensory blockade to the upper arm. An 85-yr-old man had an inguinal hernia repair in the surgical day care centre under infiltration anaesthesia with 35 ml bupivacaine 0.25% with epinephrine 1:200,000. Six hours later, the patient was still unable to walk. He had to be admitted overnight. A 79-yr-old man had cataract surgery in the ambulatory eye care centre. His blood pressure (BP) on arrival was 180/100 mmHg. A peribulbar block was successfully performed with no change in the BP. The surgeon administered two drops of phenylephrine 10% into the eye to dilate the pupil. Upon walking a short distance to the operating room, the patient felt unwell, and had an unsteady gait. He was immediately returned to the anaesthetic chair with a BP of 260/140 mmHg. Treatment included 10 mg hydralazine *iv*, 10 mg nifedipine *sl*, and a nitro-patch. After controlling the BP, surgery proceeded without complication. The patient was well two days later on follow-up.

While inadvertent brachial plexus block in a hospitalized patient amounted only to inconvenience, prolonged motor blockade of the leg in the second patient resulted in unplanned hospital admission and severe hypertension in the third patient could have resulted in a cerebrovascular accident.

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Do the opioids have an antibacterial effect?

It has been suggested that opioids have antibacterial effects.[1] In the present study the minimal inhibitory concentration (MIC) was determined to compare the antibacterial effects of morphine, meperidine and fentanyl using the microdilution method. Twenty-four strains of coagulase negative staphylococcus, coagulase positive staphylococcus, E.coli, Klebsiella enterobacter, P. aeruginosa and Proteus species isolated from clinical specimens were tested. The final concentrations of morphine, meperidine, fentanyl were (20, 10, 5, 2.5), (50, 25, 12.5, 6.25), (0.05, 0.0125, 0.006) $mg \cdot ml^{-1}$ respectively. 100 µL of bacterial suspensions were added. After incubation at 37°C for 24 hours, the MIC value of morphine started at 10 $mg \cdot ml^{-1}$ for P.aeruginosa and at 20 $mg \cdot ml^{-1}$ for other species except Proteus spp. which were not inhibited. Meperidine had the most antibacterial effect, MIC started at 6.25 $mg \cdot ml^{-1}$. Fentanyl showed no antibacterial effect.

The nonspecific antibacterial effect observed can be regarded as thermodynamic activity, in which the optical isomer and molecular weight of the chemical and environmental pH can play a role.[3] Having the smallest molecular weight,[4] being the most soluble opioid and the one most bound to cell membrane proteins[5], meperidine showed the most antibacterial effect and is the only opioid having local anaesthetic effect in clinical usage. It can be assumed that the antibacterial effects of local anaesthetics[3] and meperidine occur in a similar way. The higher molecular weight of morphine and the very weak local anaesthetic effect may be the reasons for its low antibacterial effect.

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A case of blunt neck trauma with adverse posture for emergency awake tracheostomy

In view of the recent correspondence[1] discussing the care of the airway after neck trauma, this case may be worthy of interest and record. A 58-yr-old man came to the hospital approximately 14 hours after an assault with a stick. He complained of hoarseness, and difficulty with breathing and swallowing, but exhibited no stridor. He was brought to the operating theatre and put on the operating table sitting upright, and with the head flexed on the neck, as shown in the photograph. Attempts to reduce this flexed posture increased his respiratory distress. Despite the adverse position awake tracheostomy was thought to be the option with the least risk of provoking loss of the existing airway, and it proceeded without incident. Subsequent examination under general anaesthesia revealed a haematoma and lacerated mucosa of the supraglottis, an oedematous laryngeal inlet, a dislocated arytenoid cartilage (left), a tear through the inner perichondrium of the thyroid cartilage above the vocal cord, a fracture of the thyroid cartilage (vertically through the anterior commissure), and a fracture of the cricoid cartilage anterior arch. Surgical repair was undertaken and a laryngeal stent left in place. Clearly the outcome of such adverse situations is decided by the levels of patient cooperation, local anaesthesia, and surgical skills.

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