The study provides direct evidence that endotracheal tubes might become contaminated with viruses. With a wider spectrum of host cells in the isolation technique, presumably additional viruses might have been isolated. Halothane has an antiviral effect on certain viruses, although a pronounced effect on measles, for example, is observed at more than 1% concentration only (Knight, Nahrwold and Bedows, 1980), while poliovirus and influenza A virus replication were unaffected by 2% halothane (Knight et al., 1981). In the present study, the two virus isolations were from patients receiving low concentrations of halothane. Herpes simplex type 1 and ECHO 11 may both spread, — by the respiratory route, and also by direct contact or orally. The incidence of virus epidemics and their resulting effects on the hospital and the community underline the importance of hand washing before and after patient contact. The immediate immersion of tracheal tubes (and perhaps suction catheters and airways) into a hypochlorite solution seems essential in the prevention of transmission of viral pathogens.

D. A. COZANTIS
P. LEINO
A. VAHERI
Helsinki

ACKNOWLEDGEMENT

Study supported by a grant from the Finnish Medical Research Council.

REFERENCES


INTERCOSTAL NERVE BLOCKADE

Sir,—The use of intercostal nerve blockade for the relief of pain from multiple rib fractures is well established. The use of extradural catheters inserted to an intercostal space is a development which allows continuous management. Reports of this technique (O'Kelly and Garry, 1981; Murphy, 1983) suggest that the patient should be in the sitting position at the time of top-up. The more recent report (Murphy, 1984), describing the anatomical spread of dye injected to the posterior intercostal space, does not describe what position the cadavers were in at the time of injection.

Recently, I have used this technique of continuous intercostal block in a 27-year-old male patient who had sustained fractures of ribs 7, 8, 9, 10 and 11 on the left side. These resulted in a flail segment and haemothorax. Tragically, he had also suffered a fracture dislocation of T12, resulting in paraplegia of unknown prognosis. This fracture was unstable and the patient required nursing on a Stryker frame. Arterial blood-gas tensions deteriorated as a result of ventilation being restricted by pain. Since it was not possible to sit the patient up, extradural catheters were inserted under ribs 7, 8, 9 and 10. Total relief from the pain of the rib fractures was achieved with injections of 0.5% plain bupivacaine 1.5 ml through each of the four catheters. This pain relief lasted between 4 and 5 h and the arterial blood-gas tensions improved.

The previous reports described the use of a Tuohy needle to place the catheter. I found this needle too blunt, especially over a mobile flail segment and, instead, a 14-gauge Venflon i.v. cannula was introduced to the posterior intercostal space as described in the previous reports. The cannula was advanced over the needle, and the needle removed. The extradural catheter was passed through the cannula, which was itself then removed. Once all the catheters were inserted the area was covered by an Op-Site dressing.

The use of continuous intercostal nerve blockade provided analgesia even when the patient was being nursed on his back. The use of multiple catheters was prompted by the belief that the vertical spread of local anaesthetic injected to the intercostal space required the patient to be sitting at the time of topping-up. However, analgesia was obtained with much smaller doses of bupivacaine in this patient, than are required by a single catheter technique. Since accidental i.v. injection will surely occur if sufficient blocks are performed, this decrease in dosage is an advantage. However, the risk of complications from multiple catheter placement must also be considered, and it may be that the safest method would be to use catheters in alternate intercostal spaces. The work of Nunn and Slavin (1980) indicates that volumes as small as 3 ml may find their way into the spaces above and below the site of injection so a contiguous area of analgesia should result from alternately placed catheters. We are now using this technique in our Intensive Care Unit and will be reporting on this in due course. I would be interested to hear Dr D. F. Murphy's comments.

A. D. G. DAWSON
Swindon

REFERENCES


Sir,—I would like to thank you for an opportunity to reply to Dr Dawson's letter, relating to his experience with continuous intercostal nerve blockade. I was pleased to read that he had found the technique useful and equally pleased that he had modified the technique with success. From the few published reports concerning the study of this technique, it is patent that much work must yet be done before one has any idea of optimal dosage and volume of local anaesthetic, optimal numbers of extradural catheters.