Sensitivity of sodium bicarbonate 1 mol litre$^{-1}$ and Mylanta-II solution required to neutralize 30 ml of gastric juice with pH 1.1 from a patient with cerebral aneurysm.

**REFERENCES**


I.V. EQUIPMENT DESIGN AND INFECTION

Sir,—Dr Peters and his colleagues (1979) have raised an important point about i.v. catheters. In this context of equipment design, is it perhaps not time to take a serious look at the most common and dangerous complication of long-term i.v. equipment, namely infection? Whilst careful techniques and perhaps the use of heparin (Bailey, 1979) can greatly reduce the frequency of this problem, it is not avoidable entirely. Taps may constitute an open invitation to bacterial entry to the circulation and are a particular hazard (Dryden and Brickler, 1979; Walrath et al., 1979). Should we avoid their use whenever possible, and use the much older technique of direct injection into a rubber connection since, unlike a tap, this is a surface which can be sterilized easily and quickly? Perhaps manufacturers should be asked to turn their attention to the design of a new type of device for the intermittent and completely sterile i.v. administration of drugs.

**REFERENCES**


As the first catheter had allowed the free passage of 2 ml, 10 ml and 10 ml boluses of drug in a period of 1 h, it is possible that the haemorrhage which caused blockage occurred after this time. The movement of the patient in bed may have caused the tip of the catheter (which is smooth, rounded and with no end-hole) to rupture a vessel in the extradural plexus of veins.

Recent correspondence (Galloon, 1978; Scott, 1978; Rees and Rosen, 1979) has highlighted the possibility of catheter migration into the subdural space with consequent induction of a late spinal block. This case suggests that there may also be a risk of delayed i.v. injection. Awareness of both possibilities is necessary in the practice of extradural catheter techniques.

**REFERENCES**

