

soluble narcotics such as meperidine might produce better clinical results when combined with epinephrine, and this has proved to be the case in 40 of our patients. The addition of epinephrine (5 µg/ml) to 25 mg meperidine in 10 ml normal saline prolonged the mean period of postoperative analgesia from 4.7 ± 4.4 h (40 patients, plain meperidine) to 7.2 ± 4.4 h; although this difference was not statistically significant. Again, the incidence of vomiting was doubled by the addition of epinephrine (30% vs. 15%), but vomiting was not persistent and there were no other adverse effects.

It would appear from these two small studies that epinephrine may be a useful adjunct to epidural meperidine, but not to epidural morphine, due to the serious potentiation of side effects. It may be worth pointing out that our incidence of adverse effects following plain epidural morphine (2 mg) in over 400 cases is much higher than

that published in most investigations around the world, and it may be that some difference in the local manufacturing process for morphine solutions is playing a part.

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A Case for Using Disposable Anesthesia Circuitry

To the Editor:—We read with interest the article by du Moulin *et al.*¹ on hospital-associated viral infection and the anesthesiologist. The authors of this article suggest that the anesthesia machine may be a source of cross-infection and so recommended the use of disposable equipment when anesthetizing patients known to have active hepatitis B infection. Their references to prior controlled studies showing no decreased incidence of postoperative pneumonia with the use of disposable circuits are in conflict with an earlier study.² This difference could be due to the fact that in recent years there has been improved treatment of preoperative infection and also to the increased use of antibiotics during the perioperative period. No such prophylaxis is currently available for viral infections. Besides, the infectivity period of viral infection may occur before the disease is clinically manifest. These concerns as well as the proven growth of organisms in the circle absorber³ have caused us to use disposable circuits regularly and for all patients for several years. The authors' recommendation of use of disposable equipment in known infected cases further strengthens our case, as this implicates the anesthetic circuit as a possible source of cross infection. We currently use the DISP CO₂ SORB® (Dryden Corp, Indianapolis, IN) and disposable breathing tubes. This system is relatively inexpensive (approx. \$12), provides high humidity⁴ and in addition can be used for transportation of critically ill patients.⁵

It is our opinion that until scientific studies are carried

out to prove the innocuous nature of the anesthesia circuitry, particularly with regard to viral infection, low-cost disposable equipment should be used on all patients. This practice also would protect against litigation in cases of postoperative infection, particularly now that this article has created a sense of awareness of cross-infection possibly occurring via the anesthesia machine.

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