method also requires the presence of a suitably computer-literate anaesthetist.

TCI pumps have battery backup facilities, but, as with all such equipment, this has a finite timespan. Loss of electrical power is an ever-present problem in forward medical facilities. In this regard volatile-based techniques using draw-over vapourisers have the advantage, as they are independent of all power and compressed gas sources.

There is a learning curve involved with TCI, although, for most trained anaesthetists, this is not a significant hurdle. However, it is not a technique suitable for use by untrained or non-anaesthetist personnel. Similar issues face anaesthetists coming to terms with draw-over systems for the first time.

Conclusion

Use of target-controlled infusion anaesthesia in the field is feasible. Modern infusion pumps are robust enough to withstand the rigours of field deployment. Results obtained in this limited series show comparable results to conventional draw-over techniques in terms of awakening times and better results in terms of postoperative nausea and vomiting. Intravenous anaesthesia has a proven place in military field anaesthesia and this technique may make its adoption more widespread. The options of infusion-based anaesthesia, with a draw-over system as backup in case of prolonged power loss, may be the most flexible combination for use in forward areas. Logistical issues, including bulky packaging, may be the greatest obstacle to the widespread adoption of target-controlled infusion for field use.

Conflict of interest statement

AstraZeneca provided support for this trial in the form of a loan of 2 Alaris TCI pumps. Major Harding received financial assistance from AstraZeneca to attend the Joint Scientific Meeting of the Australian and New Zealand College of Anaesthetists and the Hong Kong College of Anaesthesiologists in Hong Kong, May 2001. Portions of this paper were presented as a poster at that conference.

References


(Received 19 Jun 2002, accepted 27 Sep 2002)