Oral *vs* intravenous paracetamol for lower third molar extractions under general anaesthesia: is oral administration inferior?

Background

Paracetamol formulations provide effective analgesia after surgery [Duggan ST, Scott LJ. Intravenous paracetamol (acetominophen). *Drugs* 2009; **69**: 101–13; Toms L, McQuay HJ, Derry S, Moore RA. Single dose oral paracetamol (acetaminophen) for postoperative pain in adults. *Cochrane Database Syst Rev*2008: CD004602]. I.V. paracetamol is superior to oral for pain rescue (Jarde O, Boccard E. Parenteral versus oral route increases paracetamol efficacy. *Clin Drug Invest* 1997; **14**: 474–81). By randomized, double-blinded trial, we aimed to determine whether preoperative oral paracetamol provides inferior postoperative analgesia to preoperative i.v. paracetamol.

Methods

One hundred and thirty participants received either oral paracetamol and i.v. placebo (Group OP), or oral placebo and i.v. paracetamol (Perfalgan™) (Group IP). Oral preparations were given at least 45 min before surgery; i.v. preparations after induction of anaesthesia. Pain was assessed by a 100 mm visual analogue scale (VAS) 1 h from the end of surgery. Rescue analgesia was given on request.

Results

A total of 128 patients completed the study. There were no significant differences in baseline characteristics or intraoperative variables between the groups. The study was designed to reveal whether OP is inferior to IP, with an inferiority margin of 20%. The number of patients reporting satisfactory analgesia at 1 h with VAS ≤30 mm were 15 (OP) and 17 (IP), respectively. The secondary outcome measure of the mean (standard deviation) VAS (mm) for the whole of each group was 52 (22) for OP and 47 (22) for IP. Analysis of confidence intervals indicates that oral paracetamol is not inferior to i.v. paracetamol. The median survival (90% CI) to rescue analgesia request was

54.3 (51.2–57.4) min in Group OP and 57.3 (55.4–59.2) min in Group IP; there was no significant difference in this measure.

Conclusions

In this study of lower third molar extraction, oral paracetamol is not inferior to i.v. for postoperative analgesia.