RECTAL INDOMETHACIN FOR POSTOPERATIVE PAIN IN ORTHOPAEDIC SURGERY

A DOUBLE-BLIND STUDY

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We report a double-blind study of the effectiveness of indomethacin suppositories in the relief of postoperative pain and the reduction in demand for opiate analgesia following orthopaedic procedures.

Few studies have evaluated the efficacy of non-steroidal anti-inflammatory drugs (NSAID) given as suppositories for the relief of pain after orthopaedic operations (Gueur, Godin and Fourneaux 1970) though a recent study has shown that intramuscular diclofenac is effective (Buchanan et al 1988). Rectal administration of drugs is not usual in the United Kingdom, but in a pilot study it was observed that rectal NSAIDs reduced the need for postoperative opiates. We therefore undertook a randomised double-blind controlled trial of slow-release indomethacin suppositories.

PATIENTS AND METHODS

Patients admitted for hip or foot surgery were recruited to the study. The study was undertaken with fully informed consent and it was made clear that patients could withdraw from the investigation at any time. The total number of withdrawals was seven. Those patients receiving anticoagulants or hypoglycaemic medication or with any other contra-indication to NSAIDs were excluded.

A total of 40 patients having hip surgery and 45 having foot surgery were judged suitable for the trial.

Their ages ranged from 52 to 85 years (mean 67.3, s.d. 7.52) in the hip group, and from 20 to 77 years (mean 45.4, s.d. 13.6) in the foot group. Patients were classified according to whether they were having hip or foot surgery and then allocated to receive indomethacin or placebo suppositories. Patients were assigned to these four groups by random numbers and received a prepared treatment pack.

The observer was unaware which patient received the active suppository. At about two hours before surgery, each patient received a suppository from the treatment pack with the other pre-operative medication. Postoperative treatment began 12 hours after the premedication dose and was repeated over the next 24 hours, making a total of four suppositories.

Assessment. Postoperative assessment of pain was recorded by the patient on a 10 cm visual analogue scale; ranging from 0 cm (no pain) to 10 cm (pain as bad as it could be) (Revill et al 1976).

RESULTS

Of 40 patients undergoing hip surgery 20 received the placebo and 20 the indomethacin suppository. The pain recorded in the immediate postoperative period did not differ significantly in the two groups. However, at 48 hours those receiving indomethacin had significantly lower scores than those receiving the placebo ($p < 0.005$). The opiate requirement during this period was also significantly less in the indomethacin group (mean 1.4 ± 0.9) than in the placebo group (mean 5.2 ± 1.1) ($p < 0.005$).

Of 45 patients having foot surgery 24 received placebo and 21 indomethacin. Scores did not differ between the groups in the immediate postoperative period, but at 48 hours patients on indomethacin had significantly less pain ($p < 0.01$) and had received

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significantly less opiate (mean 1.9 ± 1.6) than those on placebo (mean 5.0 ± 2.0) ($p < 0.025$).

Complications. A problem encountered early in the trial was proctitis, suffered by three patients, on indomethacin, out of the first 15. This problem was resolved by soaking the suppositories in water for three minutes before administration. No patient had nausea, vomiting or gastro-intestinal bleeding.

DISCUSSION

Our results confirm the effectiveness of indomethacin suppositories in the relief of postoperative pain and in reducing the need for opiates. Other studies have shown their effectiveness after thoracotomy (Keenan et al 1983) and after major abdominal surgery (Reasbeck, Rice and Reasbeck 1982).

We would emphasise that during this study it was not our policy routinely to administer anticoagulants for either hip or foot surgery. Indomethacin affects clotting and platelet function and should therefore be used with extreme caution if anticoagulants are also to be given. Some patients may react idiosyncratically. That there were no haematomas nor any gastro-intestinal haemor-

rhages may be because we excluded all patients receiving potentiating medication.

Indomethacin suppositories are easily administered, inexpensive, and have no action on the respiratory centre. We now use this form of medication routinely after orthopaedic procedures.

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