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Does a reduction in intrathecal opioid dose improve early mobilisation?

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Intrathecal opioids have been proven to provide effective postoperative analgesia for patients undergoing a number of orthopaedic procedures. Lower doses have been increasingly administered as current evidence suggests there is no significant improvement in analgesia with an increase in dose but instead a reduction in adverse effects such as respiratory depression [1–3]. With the growing focus on enhanced recovery to improve patient outcomes and reduce inpatient stay, we conducted a study to ascertain whether the recommended lower intrathecal opioid dose administered had an impact on patients undergoing elective total hip arthroplasty [1, 3]. We analysed patients' postoperative pain scores and the ability of our patients to mobilise on day 1 postoperatively to study the effects of the change in our practice.

Methods

We performed a cohort study by analysing the case notes of 60 patients who had undergone elective primary total hip arthroplasty and received spinal anaesthesia with 300 μg of intrathecal diamorphine and compared the data with 56 patients who were administered a lower dose of 150 μg following a change in practice. The data collected from case notes included postoperative pain scores at 12 h, 24 h and 48 h (using a 0–10 pain scale), as required oral morphine usage at 12 h, 24 h and 48 h post-spinal and data on whether the patients were able to mobilise well on day 1 postoperatively.

Results

The results of the study showed that the patients who had received the 150 μg intrathecal diamorphine dose were more likely to mobilise well on day 1 (82% vs. 60%, p value 0.009). Data analysis on pain scores at 12 h, 24 h and 48 h showed that there was no statistically significant variation in mean pain scores, nor the percentage of patients recording pain scores of > 2 or > 4 in each study group. The difference in mean total oral morphine usage between the 150 μg and 300 μg groups was minimal (52.5 mg vs. 55.1 mg, respectively).

Discussion

This study concluded that our change in practice to administering a lower dose of intrathecal diamorphine led to an improvement in the number of patients mobilising well on day 1 postop and had no clear adverse effect on patients' postoperative pain scores or total oral morphine usage. This study further evidences the benefits of administering lower doses of intrathecal opioids in this patient group [1, 3].

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Remifentanil patient-controlled analgesia for labour analgesia: completing the audit cycle of a recently established service

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The role of remifentanil in labour analgesia as an alternative to epidural analgesia is well documented in obstetric anaesthetic literature [1]. Following the introduction of a remifentanil patient-controlled analgesia (PCA) service for patients in whom regional anaesthesia was contraindicated in March 2014, an initial 10-month audit demonstrated overall efficacy and safety of use. Having extended the service to include patients in whom epidural analgesia had failed, we re-audited our practice to ensure ongoing compliance with guidelines, safety and patient satisfaction.

Methods

Patient data were collated to measure (i) compliance with recording of remifentanil-specific patient observations and prescribing practice as per the PCA protocol; (ii) maternal satisfaction with labour analgesia and (iii) maternal or fetal side-effects.

Results

Between January and December 2015, 37 patients availed of this service with 30% (11/37) receiving remifentanil PCA as rescue for failed epidural analgesia. Remifentanil PCA guidelines including patient preparation, monitoring and dosing regimen met with 100% compliance. However, documentation and prescribing was complete on only 48% (18/37) of patients. The mean pain score recorded was 1.6 (range 1–3) where 0 = no pain and 3 = severe pain. While there were no cases of respiratory depression attributable to remifentanil PCA, 45% (17/37) of patients received anti-emetics for either nausea or vomiting. No adverse fetal outcomes were observed. Of the patients that availed of the remifentanil PCA service, 62% (23/37) were contactable for follow-up and questioning regarding satisfaction. The mean overall satisfaction score recorded was 4.16 (range 2–5) where 5 = very satisfied, 1 = very dissatisfied. Furthermore, 87% (20/23) stated that they would be happy to have remifentanil PCA again and would recommend it to a friend. Dissatisfaction related to sedation and lack of recall, but interestingly not nausea or vomiting.

Discussion

This audit demonstrates ongoing safety of our service. However further education on prescribing practice and documentation by anaesthesia staff is required. While the optimum dosage and lockout interval for remifentanil PCA remains debatable [2], our current prescribing practice of a bolus dose of either 32 μg or 40 μg based on booking weight and a lockout time of 3 min continues to show good patient satisfaction scoring, despite common nausea/vomiting side-effects.

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