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Abstracts

Organisational structures to treat acute pain

Bacterial contamination of PCA and epidural infusion devices

Anaesthesia. 2009 Jul;64(7):751—3.
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We prospectively audited the bacterial contamination of re-usable analgesia infusion pumps. In a 1-month period, 112 samples from the handset and keypads of our analgesia infusion pumps were cultured for bacterial contamination. Forty-five percent of handset swabs and 46% of keypad swabs grew bacteria; the commonest organism being coagulase-negative staphylococcus. An additional cleaning step using 70% isopropyl alcohol wipes was introduced and the contamination rate was re-audited in 100 samples. The contamination rate was reduced to 6% of handset swabs and 4% of keypad swabs. A high initial rate of bacterial contamination of re-usable analgesia infusion pumps was significantly reduced by the implementation of a simple, additional cleaning procedure.

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Acute postoperative pain

Multimodal analgesia for controlling acute postoperative pain

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Purpose of review: Multimodal analgesia is needed for acute postoperative pain management due to adverse effects of opioid analgesics, which can impede recovery; a problem that is of increasing concern with the rapid increase in the number of ambulatory surgeries. Yet, the literature on multimodal analgesia often shows variable degrees of success, even with studies utilizing the same adjuvant medication.

Recent findings: Nonsteroidal anti-inflammatory drugs and selective cyclooxygenase-2 inhibitors consistently reduce postoperative opioid consumption. The N-methyl-D-aspartate antagonists have produced variable results in studies, which may be due to the dose and timing of drug administration. Alpha-2 adrenergic agonists have been useful as adjuvant for regional analgesia but not when administered orally. The alpha-2-delta receptor modulators such as gabapentin have shown early promising results in multimodal analgesia. Local anesthetic injection at the surgical site, though not as a preemptive analgesic, has recently been demonstrated to be beneficial in multimodal analgesia. No new adjuvants have appeared in the last year, which robustly reduce opioid consumption and opioid-related adverse effects.

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Summary: There is a continuing need to explore new drug combinations to achieve all of the purported goals of multimodal anesthesia.

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Acute pain management in patients with fibromyalgia and other diffuse chronic pain syndromes

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Purpose of review: Patients with fibromyalgia are at increased risk to experience increased and prolonged postoperative pain. In this review, we will provide an overview of pathophysiological characteristics of fibromyalgia relevant for enhanced pain processing after surgery. Furthermore, we will present some potential treatment options in the perioperative period based on specific symptoms of individual fibromyalgia patients to optimize their pain management after surgery.

Recent findings: Recent evidence points towards enhanced central nervous system sensitization and decreased descending inhibition in patients with fibromyalgia. Even in patients without fibromyalgia, these two mechanisms are seen as major contributors to the severity of acute and chronic pain states after surgery. Furthermore, other symptoms and comorbidities such as anxiety, depression and somatization disorder, frequently associated with fibromyalgia, are independently known to increase the risk of acute and prolonged pain after surgery. Therefore, an optimal treatment approach in the perioperative period should include substances and strategies targeting specific symptoms in fibromyalgia patients to prevent or specifically reduce acute and prolonged pain after surgery. Such multimodal pain management in fibromyalgia patients in the perioperative period should include nonopioid analgesics, gabapentinoids, antidepressants, N-methyl-D-asparate antagonists and use of regional techniques when appropriate.

Summary: The perioperative pain management of patients with fibromyalgia is challenging and should include symptom-based approaches to target enhanced central sensitization and decreased inhibition in these patients as well as their psychological syndromes aiming to decrease acute and prolonged pain after surgery.

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Gabapentin decreases morphine consumption and improves functional recovery following total knee arthroplasty

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Background: Moderate to severe pain after total knee arthroplasty often interferes with postoperative rehabilitation and delays discharge from hospital. The present study examined the effects of a 4-day postoperative gabapentin (GBP) regimen versus placebo on opioid consumption, pain scores and knee flexion, as well as adverse effects, after total knee arthroplasty.

Methods: After obtaining research ethics board approval and informed consent, 40 patients were enrolled in a randomized, single-blind, placebo-controlled, open-label study. Patients were assigned to one of five groups—preoperative placebo/postoperative placebo (G1), preoperative GBP 600 mg/postoperative placebo (G2), preoperative GBP 600 mg/postoperative GBP 100 mg three times per day (G3), preoperative GBP 600 mg/postoperative GBP 200 mg three times per day (G4) and preoperative GBP 600 mg/postoperative GBP 300 mg three times per day (G5). Postoperative GBP or placebo was continued for four days after surgery. Two hours before surgery, all patients received celecoxib 400 mg. Based on the above groupings, patients in G1 received placebo medication, whereas patients in G2, G3, G4 and G5 received gabapentin 600 mg 2 h preoperatively. All patients received femoral and sciatic nerve blocks, followed by spinal anesthesia. Beginning in the postanesthetic care unit, all patients received a regimen of celecoxib 200 mg every 12 h for 4 days and a patient-controlled morphine analgesia pump for 48 h.

Results: Thirty-six patients (G1, $n = 7$; G2, $n = 7$; G3, $n = 8$; G4, $n = 7$; G5, $n = 7$) completed the study. Data were analyzed by one-way ANOVA followed by a contrast comparing patients who received postoperative GBP (G3, G4 and G5) ($n = 22$) with patients who received placebo postoperatively (G1 and G2) ($n = 14$). Patients who received GBP postoperatively used significantly less patient-controlled morphine analgesia at 24 h, 36 h and 48 h ($P < 0.05$). The postoperative GBP patients had significantly better active assisted knee flexion on postopera-