

ABSTRACTS

Factor XIII Substitution in Surgical Cancer Patients at High Risk for Intraoperative Bleeding

Korte, Wolfgang C. et al

Background: Excessive intraoperative bleeding is associated with significant morbidity and mortality. The authors and others have shown that fibrin monomer allows preoperative risk stratification for intraoperative blood loss, likely due to an imbalance between available factor XIII and prothrombin conversion. The authors hypothesized that the use of factor XIII (30 U/kg) would delay the decrease of clot firmness in high-risk patients.

Results: Twenty-two patients were evaluable for a planned interim analysis. For the primary outcome parameter maximum clot firmness, patients receiving factor XIII showed a nonsignificant 8% decrease, and patients receiving placebo lost 38%, a highly significant difference between the two groups ($P = 0.004$). A reduction in the nonprimary outcome parameters fibrinogen consumption (-28%, $P = 0.01$) and blood loss (-29%, $P = 0.041$) was also observed in the factor XIII group. Three patients experienced adverse events that seemed unrelated to factor XIII substitution. The trial was stopped early after a planned interim analysis with the primary endpoint reached.

Conclusions: This proof of concept study confirms the hypothesis that patients at high risk for intraoperative blood loss show reduced loss of clot firmness when factor XIII is administered early during surgery. (Anesthesiology: February 2009 - Volume 110 - Issue 2 - pp 239-45)

Homeopathic medicines for adverse effects of cancer treatments

Kassab Set al.

The authors found preliminary data in support of the efficacy of topical calendula for prophylaxis of acute dermatitis during radiotherapy and Traumeel S mouthwash in the treatment of chemotherapy-induced stomatitis. There is no convincing evidence for the efficacy of homeopathic medicines for other adverse effects of cancer treatments. (Cochrane Reviews, 04/21/09)

A new nonpharmacological method in fibromyalgia: The use of wool

Kiyak EK

Study shows that use of woolen underwear and woolen bedding were effective in reducing the symptoms of patients suffering from fibromyalgia. The use of wool is recommended as a means of treatment for alleviating the pain in these pts.

Pts in the treatment group wore woolen underwear, covering the

body from shoulders to the thighs, used woolen bedding such as woolen bed liner woolen quilt and pillow. All pts were assessed at the beginning and the end of 6th wk. Data collected using the VAS (010), tender points count, and Fibromyalgia Impact Questionnaire. Pts in the treatment group reported significant improvements in their conditions. There was reduction in pain levels, tender point counts, and all scores of the Fibromyalgia Impact Questionnaire. (Journal of Alternative and Complementary Medicine, 04/28/09)

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A six-month double-blind, placebo-controlled, randomized clinical trial of duloxetine for the treatment of fibromyalgia

Chappell AS et al.

Although duloxetine 60/120 mg/day failed to demonstrate significant improvement over placebo on the co-primary outcome measures, in this supportive study, duloxetine demonstrated significant improvement compared with placebo on numerous secondary measures.

There were no significant differences between treatment groups on the co-primary efficacy outcome measures, change in the Brief Pain Inventory (BPI) average pain severity from baseline to endpoint ($P = 0.053$) and the Patient's Global Impressions of Improvement (PGI-I) at endpoint ($P = 0.073$). Duloxetine-treated patients improved significantly more than placebo-treated patients on the: Fibromyalgia Impact Questionnaire pain score, BPI least pain score and average interference score, Clinical Global Impressions of Severity scale, area under the curve of pain relief, Multidimensional Fatigue Inventory mental fatigue dimension, Beck Depression Inventory-II total score, and 36-item Short Form Health Survey mental component summary and mental health score.

Nausea was the most common treatment-emergent adverse event in the duloxetine group.

Overall discontinuation rates were similar between groups. (International Journal of General Medicine, 05/12/09)

Risks and side-effects of intrathecal morphine combined with spinal anaesthesia: a meta-analysis

Authors: Gehling, M, Tryba, M.

Intrathecal morphine is often used for postoperative analgesia after surgery. We performed a meta-analysis to obtain more detailed information on the frequency of side-effects in patients receiving intrathecal morphine in combination with spinal anaesthesia compared with placebo treated patients. We clustered the analysis to patients receiving placebo, less than morphine 0.3 mg (M_p < 0.3), or equal to or more than morphine 0.3 mg (M_p ≥ 0.3) and calculated the risk ratios of morphine vs placebo. Twenty-eight studies investigating 46 morphine groups vs placebo were included. A total of 790 patients with intrathecal morphine and 524 patients who received placebo were analysed. Compared with placebo the lower dose of morphine resulted in an increase of nausea (RR 1.4, 95% CI 1.1-1.7), vomiting (RR 3.1, 95% CI 1.5-6.4) and pruritus (RR 1.8, 95% CI 1.4-2.2). The higher dose resulted in an increased risk ratio for pruritus (RR 5.0, 95% CI 2.9-8.6), but not nausea (RR 1.2, 95% CI 0.9-1.6) or vomiting (RR 1.3, 95% CI 0.9-1.9). Overall, intrathecal morphine did not increase respiratory depression. However, the higher dose of intrathecal morphine was associated with more episodes of respiratory depression (7/80) compared with the lower dose (2/247). Intrathecal morphine is associated with a mild increase in side-effects. With a dose < 0.3 mg we found there were no more episodes of respiratory depression than in placebo patients who received systemic opioid analgesia. (Anaesthesia:64(6); 2009: 643-651.)

Failed spinal anaesthesia: mechanisms, management, and prevention

P. D. W. Fettes, J.-R. Jansson, J. A. W. Wildsmith

Dealing with a spinal anaesthetic which is in some way inadequate can be very difficult; so, the technique must be performed in a way which minimizes the risk of regional block. Thus, practitioners must be aware of all the possible mechanisms of failure so that, where possible, these mechanisms can be avoided. This review has considered the mechanisms in a sequential way: problems with lumbar puncture; errors in the preparation and injection of solutions; inadequate spreading of drugs through cerebrospinal fluid; failure of drug action on nervous tissue; and difficulties more related to patient management than the actual block. Techniques for minimizing the possibility of failure are discussed, all of them requiring, in essence, close attention to detail. Options for

managing an inadequate block include repeating the injection, manipulation of the patient's posture to encourage wider spread of the injected solution, supplementation with local anaesthetic infiltration by the surgeon, use of systemic sedation or analgesic drugs, and recourse to general anaesthesia. Follow-up procedures must include full documentation of what happened, the provision of an explanation to the patient and, if indicated by events, detailed investigation. (British Journal of Anaesthesia. 2009;102(6):739-748.)

Loss of Resistance Technique for Paravertebral Nerve Blockade Using the Episure™ Autodetect™ Syringe: A Case Report

Derick A. Munday, Chester C. Buckenmaier III, Anthony R. Plunkett.

An alternative anesthetic technique for breast surgery and postoperative analgesia is paravertebral nerve blockade (PVB). Greengrass and Wertz have described improved patient satisfaction, less analgesic requirement, and less total anesthetic use in those patients with preoperative PVBs. One of the challenges in providing successful analgesia from PVBs is the ability to correctly identify the paravertebral space. Landmark-based anatomy with penetration of the superior costotransverse ligament 1 cm past the transverse process has been previously described. Boezaart has described the use of loss of resistance (LOR) when performing PVBs. One potential difficulty with this technique is the reliance on the subjective feel of resistance loss as the needle passes into the paravertebral space.

The Episure™ Autodetect™ Syringe is currently indicated by the FDA for use with an epidural needle for the verification for needle tip placement in the epidural space. The principle, however, of LOR is similar when performing PVBs. We report a case of the successful use of the Episure™ Autodetect™ Syringe (ADS) for confirming entry into the paravertebral space. (10.1111/j.1526-4637.2009.00626.x)

Prospective Clinical and Fiberoptic Evaluation of the Supreme Laryngeal Mask Airway (TM)

Timmermann A; Cremer S; Eich C; Kazmaier S; Bräuer A; Graf B M; Russo S G.

Background: Launched in March 2007, the LMA Supreme™ (The Laryngeal Mask Company Limited, St. Helier, Jersey, Channel Islands) aims to combine the LMA Fastrach™ feature of easy insertion with the gastric access and high oropharyngeal leak pressures of the LMA ProSeal

Results: Insertion of the LMA Supreme™ was possible in 94 patients (94%) during the first attempt, and in 5 patients (5%) during the second attempt. In one small patient, the LMA

Supreme™ could not be inserted because of limited pharyngeal space. This patient was excluded from further analysis. Insertion of a gastric tube was possible in all patients at the first attempt. The median time for LMA Supreme™ insertion was 10.0 s (± 4.7 s; range, 8-30 s). Laryngeal fit, evaluated by fiberoptic view, was rated as optimal in all patients, both immediately after insertion of the LMA Supreme™ and at the end of surgery. After equalization to room pressure, the mean cuff volume needed to achieve 60 cm H₂O cuff pressure was 18.4 ml (± 3.8 ml; range, 8-31 ml). The mean oropharyngeal leak pressure at the level of 60 cm H₂O cuff pressure was 28.1 cm H₂O (± 3.8 cm H₂O, range, 21-35 cm H₂O). Eight patients (8.1%) complained of a mild sore throat. No patient reported dysphagia or dysphonia

Conclusions: Clinical evaluation of the LMA Supreme™ showed easy insertion, optimal laryngeal fit, and low airway morbidity. Oropharyngeal leak pressure results were comparable to earlier data from the LMA ProSeal. (Anesthesiology.2009;110(2);262-265)

Reversal of Rocuronium-induced Neuromuscular Blockade with Sugammadex in Pediatric and Adult Surgical Patients

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Background: Sugammadex reverses neuromuscular blockade by chemical encapsulation of rocuronium. This phase IIIA study explored efficacy and safety of sugammadex. Methods: Anesthetized patients received 0.6 mg/kg rocuronium and were randomized to receive sugammadex (0.5, 1.0, 2.0, or 4.0 mg/kg) or placebo at reappearance of T2. Neuromuscular monitoring was performed using acceleromyography. Primary endpoint was time from sugammadex/placebo administration to recovery of the train-of-four ratio to 0.9. Adverse events and electrocardiograms were recorded, and blood samples were collected for safety and determination of sugammadex and rocuronium plasma concentrations.

Results: A dose-response relation was demonstrated in children, adolescents, and adults, but not infants because of the small sample size. After placebo, median recovery time of train-of-four to 0.9 was 21.0, 19.0, 23.4, and 28.5 min in infants, children, adolescents, and adults, respectively. After 2.0 mg/kg sugammadex train-of-four 0.9 was attained in 0.6, 1.2, 1.1, and

1.2 min, respectively. The sugammadex plasma concentrations were similar for the children, adolescent, and adult age groups across the dose range. Sugammadex was well tolerated: No reoccurrence of blockade, inadequate reversal, significant QT prolongation, or other abnormalities were observed.

Conclusions: Sugammadex is a new reversal agent that rapidly, effectively, safely, and with similar recovery times reverses rocuronium-induced neuromuscular blockade in children, adolescents, adults, and the small number of infants studied. (Anesthesiology: 2009;110(2);284-294)

Efficacy of Acupuncture as a Treatment for Chronic Shoulder Pain

Amanda Tiffany Lathia, S.M. Jung, Lan X. Chen.

Subjects: The participants were adults with shoulder pain for at least 8 weeks with a diagnosis of osteoarthritis or rotator cuff tendonitis and a total Shoulder Pain and Disability Index (SPADI) score of ≥ 30 .

Interventions: Thirty-one (31) subjects were randomized to one of three treatment groups: individualized acupuncture points according to the approaches of Traditional Chinese Medicine; fixed, standard acupuncture points conventionally used for shoulder pain; and sham nonpenetrating acupuncture. Subjects received 12 treatments over 6 weeks and were reassessed using the SPADI at the end of the 6 weeks.

Results: After 6 weeks of treatment, the mean total SPADI score improved in all three groups, but the change was clinically significant (≥ 10 points) only in groups 1 and 2 (- 20.3 and - 20.4, respectively, versus - 6.5 in group 3). The treatment effects of groups 1 and 2 compared to the sham acupuncture group were - 13.8 (95% confidence interval: - 2.2 to - 25.4, $p < 0.015$) and - 13.9 (- 2.0 to - 25.8, $p < 0.013$), respectively. There was no difference between the individualized acupuncture and standardized acupuncture treatments.

Conclusions: Acupuncture may be an effective treatment for chronic shoulder pain. There may be no difference in efficacy between individualized and standardized acupuncture treatment. This suggests that the use of standard points may make treatment easier for patient care and for further research studies. (The Journal of Alternative and Complementary Medicine. doi:10. 1089/acm. 2008.0272.)

