



Spud's Snippets

1. Acupuncture: a critical analysis

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Even though widely used in today's clinical practice, acupuncture has remained a controversial subject. Many reviews are currently available but most lack a critical stance and some are overtly promotional. The aim of this overview is to provide a balanced, critical analysis of the existing evidence. Some of the original concepts of traditional acupuncture are not supported by good scientific evidence. Several plausible theories attempt to explain how acupuncture works but none are proved beyond doubt. The clinical effectiveness of acupuncture continues to attract controversy. Many controlled clinical trials and numerous systematic reviews of these studies have been published. Considerable problems are encountered when interpreting these data. Heterogeneity is a significant drawback of both clinical trials and systematic reviews. Some of the controversies may be resolved through the use of the new 'placebo needles' which enable researchers to adequately control for placebo effects of acupuncture. The majority of studies using such devices fails to show effects beyond a placebo response. Acupuncture has been associated with serious adverse events but most large-scale studies suggest that these are probably rare. Nonserious adverse effects occur in 7–11% of all patients. In conclusion, acupuncture remains steeped in controversy. Some findings are encouraging but others suggest that its clinical effects mainly depend on a placebo response.

Comment: Durban has been fortunate in having a number of very competent acupuncturists to assist in the management of our chronic pain patients. Like all interventions in chronic pain, acupuncture is not uniformly effective, but does provide significant relief to selected patients. Patients who appear to benefit most are those with myofascial pain syndromes, fibromyalgia and tension type headaches with or without neck pain.

2. Interventional pain management: When/what therapies are best for low back pain?

Leonardo Kapural and Joshua Goldner

Curr Opin Anaesthesiol 18:569–575.

Numerous percutaneous and minimally invasive techniques for treatment of lower back pain were introduced recently. To accumulate sufficient clinical evidence in order to either dismiss or accept the new treatment modalities requires years of delay. Presented here are novel percutaneous procedures to treat discogenic pain, radiculopathies, lumbar facet syndrome, painful compressive vertebral fractures, myofascial pain and postlaminectomy syndrome. Data on efficacy of those procedures available from limited case series reports, retrospective studies and a few prospective trials are reviewed. A wide variety of techniques have been introduced recently in pain management of the lower back. Some of those procedures may serve as a definite treatment; others may significantly enhance or facilitate conservative management. Careful selection of the patients may significantly improve the success rates of these procedures.

Comment: Pain clinicians are faced with a bewildering array of interventions for low back pain. South Africa has the unfortunate distinction of having the highest rate of spinal surgery (in private practice) in the world. This has resulted in a booming population of patients suffering the Failed Back Surgery Syndrome. These patients will be presented for the wide variety of the therapies described in this review from epidural steroids to rhizotomies of various kinds and ending up with spinal cord stimulators and epidural / intrathecal drug delivery systems.

This review confirms my impression that invasive therapies have a limited application in patients with chronic pain and a life expectancy of more than two years. Invasive options perpetuate the myth that chronic pain syndromes are amenable to a "quick fix" and delay acceptance of sustainable coping strategies and lifestyle adjustments required in patients with chronic pain.

3. The Effect of Single-Injection Femoral Nerve Block Versus Continuous Femoral Nerve Block After Total Knee Arthroplasty on Hospital Length of Stay and Long-Term Functional Recovery Within an Established Clinical Pathway

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Francis V. Salinas, Spencer S. Liu, and Michael F. Mulroy.

Total knee arthroplasty (TKA) may result in severe pain, and single-injection femoral nerve blocks (SFNB) have been demonstrated to have a limited duration of analgesia. Continuous femoral nerve blocks (CFNB) can prolong the analgesic duration of SFNB. We prospectively randomized 36 patients undergoing TKA to CFNB versus SFNB and evaluated the effect on hospital length of stay (LOS) as the primary outcome within a standardized clinical pathway. Secondary outcomes included visual analog scale (VAS) pain scores, opioid consumption, and long-term functional recovery at 12 wk. Mean VAS resting scores were significantly lower among patients who received CFNB versus SFNB: first day (1.7 vs 3.3 [P = 0.002]) and second day (0.9 vs 3.2 [P < 0.0001]) after surgery. Mean maximal VAS scores during physical therapy were significantly lower among patients who received CFNB versus SFNB: first day (4.7 vs 6.3 [P = 0.01]) and second day (3.9 vs 6.1 [P = 0.0005]) after surgery. Mean oxycodone consumption was significantly lower among patients who received CFNB versus SFNB: 15 mg versus 40 mg (P = < 0.0001) on the first day after surgery; 20 mg versus 43 mg (P = 0.0004) on the second day after surgery. There was no difference in hospital LOS (3.8 vs 3.9 days) or long-term functional recovery (117° versus 113° knee flexion at 12 wk) between the two groups. The lack of effect provided by increased duration of analgesia (from CFNB) after TKA may now have minimal impact on hospital LOS and long-term functional recovery in the contemporary healthcare environment within the United States.

Comment: The healthcare environment in private practice in South Africa is not that different from the USA. The experience in this article mirrors what we have seen in Durban. Single shot femoral nerve blocks are very effective for knee surgery (replacement and ACL repair). Adding a catheter significantly improves patient (and surgeon) satisfaction and removes the requirement for urinary catheterisation required with epidurals. Posterior knee pain may be controlled by a regular analgesic regime commenced preoperatively that includes paracetamol, NSAID and slow release tramadol.

4. A Comparison of Epidural Analgesia With Combined Continuous Femoral-Sciatic Nerve Blocks After Total Knee Replacement

Anesth Analg 2006;102:1240-1246

Dusanka Zaric, Klavs Boysen, Christian Christiansen, Jadwiga Christiansen, Snorre Stephensen, and Bodil Christensen.

Epidural analgesia remains the "gold standard" of pain relief after total knee replacement. However, peripheral nerve block is gaining popularity because the incidence of side effects may be reduced. Our study tests this postulate. Sixty patients were prospectively randomized to receive either epidural infusion or combined continuous femoral and sciatic nerve blocks. Ropivacaine 2 mg/mL plus sufentanil 1 µg/mL was given either epidurally or through the femoral nerve catheter, and ropivacaine 0.5 mg/mL was given through the sciatic nerve catheter using elastomeric infusers (delivering 5 mL/h for 55 h). The primary outcome measure was the total incidence of side effects (urinary retention and moderate to severe degrees of dizziness, pruritus, sedation, and nausea/vomiting on the first postoperative day). Intensity of motor blockade, pain at rest and on mobilization, and rehabilitation indices were also registered for 72 h. One or more side effects were present in 87% of patients in the epidural group whereas only 35% of patients in the femoral and sciatic block groups were affected on the first postoperative day (P = 0.0002). Motor blockade was more intense in the operated limb on the day of surgery and the first postoperative day in the peripheral nerve block group (P = 0.001), whereas the non-operated limb was more blocked in the epidural group on the day of surgery (P = 0.0003). Pain on mobilization was well controlled in both groups and there were no differences in the length of hospital stay. Rehabilitation indices were similar. The results demonstrate a reduced incidence of side effects in the femoral/sciatic nerve block group than in the epidural group on the first postoperative day.

Comment: Faster mobilisation and reduced side effects are seen with the combined plexus block compared with epidural. The role of the sciatic catheter remains unclear. A study comparing a femoral catheter with femoral and sciatic catheters in which both groups receive an effective systemic multimodal analgesic regime is required.

5. Comparison of ropivacaine 2 mg ml⁻¹ and prilocaine 5 mg ml⁻¹ for i.v. regional anaesthesia in outpatient surgery

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Background. Ropivacaine 2 mg ml⁻¹ (0.2%) provides longer-lasting analgesia after deflation of the tourniquet cuff, with fewer side-effects, than lidocaine 5 mg ml⁻¹ (0.5%) after i.v. regional anaesthesia (IVRA). Whether ropivacaine 2 mg ml⁻¹ also exerts this advantage over prilocaine 5 mg ml⁻¹, the local anaesthetic of choice in IVRA in most European countries was investigated in this study.

Methods. Sixty outpatients scheduled for forearm or hand surgery received IVRA with 40 ml of ropivacaine 2 mg ml⁻¹ (Ropi) or prilocaine 5 mg ml⁻¹ (Prilo) in a randomized, double-blinded fashion. The development and recovery of pin-prick analgesia and motor power of the hand, as well as ropivacaine and prilocaine plasma concentrations (n=30), were assessed during and after operation.

Results. Anaesthesia for surgery was adequate in both groups. Pin-prick analgesia was achieved at a similar rate, except in the radial nerve distribution area where at 10 min 60% of Ropi and 90% of Prilo patients had analgesia (P=0.017). At 10 min 100 and 97% had motor block of the hand in the Ropi and Prilo groups, respectively. Recovery of the sensory block in all innervation areas was already observed 2 min after the tourniquet cuff release. At 10 min after releasing the tourniquet cuff 31% of the Ropi patients and none of the Prilo patients still had analgesia in the median nerve distribution (P=0.004). At 12 min, 42% in the Ropi group and none in the Prilo group had decreased grip strength. After the release of the tourniquet, mean plasma concentrations of ropivacaine were higher than those of prilocaine. The highest individual concentration of ropivacaine was 1.65 µg ml⁻¹ and that of prilocaine 0.6 µg ml⁻¹. None of the Ropi patients experienced any symptoms of local anaesthetic toxicity.

Conclusions. Compared with prilocaine 5 mg ml⁻¹, analgesia in IVRA with ropivacaine 2 mg ml⁻¹ developed slightly more slowly, while motor block developed at a similar rate. After the release of the tourniquet, sensation recovered quickly and at a similar rate in the two groups, except for a slightly slower recovery after ropivacaine in the innervation area of the median nerve, but no surgically useful extended analgesia after the cuff deflation was observed. Despite a 60% lower milligram-dose, ropivacaine plasma concentrations were markedly higher than those of prilocaine.

Comment: The plasma levels of ropivacaine achieved in this study would make me very reluctant to change from the gold standard for IVRA in South Africa, 0.5% lignocaine. Both racemic and levo- Bupivacaine also remain contraindicated for IVRA.

Useful websites:

1. <http://www.ama-cmeonline.com/>

Online slideshows for a broad overview of pain management from pathophysiology through acute and chronic pain.

2. <http://www.who.int/cancer/palliative/en/>

Provides the WHO guidelines for management of cancer pain including the WHO pain ladder.

3. <http://anatquest.nlm.nih.gov/>

Extensive collection of free anatomical diagrams and pictures.

3. <http://www.gifs.net/gif/>

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References: 1. Mikawa K, Takao Y, *et al.* Optimal Dose of Granisetron for Prophylaxis Against Postoperative Emesis After Gynecological Surgery. *Anesth Analg* 1997; **85**: 652-656. 2. Wilson AJ, Diemunsch P, *et al.* Single-dose i.v. granisetron in the prevention of postoperative nausea and vomiting. *Br. J. Anaesthesia* 1996; **76**: 515-518. 3. Taylor AM, Rosen M, *et al.* A Double-Blind, Parallel-Group, Placebo-Controlled, Dose-Ranging, Multicenter Study of Intravenous Granisetron in the Treatment of Postoperative Nausea and Vomiting in Patients Undergoing Surgery with General Anesthesia. *J. of Clin. Anesthesia* 1997; **9**: 658-668. 4. Blower PR. Granisetron: relating pharmacology to clinical efficacy. *Support Care Cancer* 2003; **11**: 93-100. 5. Van Wijngaarden I, Tulp M, Th. M, *et al.* The concept of selectivity in 5-HT₃ receptor research. *Eur. J. Pharmacol* 1990; **188**: 301-312. 6. Kytril Package Insert. **COMPOSITION:** Kytril 1 mg Oral: tablet contains granisetron hydrochloride equivalent to 1.0 mg granisetron free base. Kytril 2 mg Oral: tablet contains granisetron hydrochloride equivalent to 2.0 mg granisetron free base. Kytril 1 mg/1 ml and Kytril 3 mg/3 ml ampoule contains 1.0 mg granisetron free base per 1 ml isotonic solution. **INDICATIONS:** Kytril 1 mg Oral and Kytril 2 mg Oral: Indicated for the prevention of nausea and vomiting induced by moderately emetogenic cytostatic therapy. Kytril 1 mg/1 ml and Kytril 3 mg/3 ml IV: Indicated for the prevention or treatment of nausea and vomiting induced by cytostatic therapy and for the prevention and treatment of post-operative nausea and vomiting. **CONTRA-INDICATIONS:** hypersensitivity to any of the ingredients • children under 2 years of age • pregnancy and lactation. **WARNINGS:** Kytril may induce lower bowel motility; patients with signs of sub-acute intestinal obstruction should thus be monitored. **DOSE:** Post-operative nausea and vomiting *Adults*: a single dose of 1 mg administered as slow i.v. injection. Patients have received a total dose of 3 mg in one day. Cytostatic therapy. *Adults*: Oral: 1 mg tablet twice daily or a 2 mg tablet once daily for up to one week following cytostatic therapy. Intravenous: 3 mg to be administered either as a slow intravenous injection or diluted and administered by slow infusion. Maximum dose should not exceed 9 mg in 24 hours. **SIDE-EFFECTS:** mainly headache and constipation. **OVERDOSE:** headache may occur. No specific antidote. **PACKS:** Kytril 1 mg Oral: 10 tablets per blister pack. Kytril 2 mg Oral: 5 tablets per blister pack. Kytril 1 mg/1 ml: cartons of 5 ampoules. Kytril 3 mg/3 ml: cartons of 5 ampoules. [54] • Kytril 1 mg Oral: 28/5.7.2/0162 • Kytril 2 mg Oral: 30/5.7.2/0346 • Kytril 1 mg/1 ml: 31/5.7.2/0082 • Kytril 3 mg/3 ml: Y/5.7.2/0272. This product information represents an abbreviated version of the complete Kytril Package Insert. Details are available on request from Roche Products (Pty) Ltd., 4 Brewery Street, Isando, Tel.: (011) 928 8700 or REAL (Roche Ethical Assistance Line) (tollfree) 0800 212125. 10 Code: K46 Expiry: 05/05 Setup: 08/03



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