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INJECTING PRESSURES DURING REGIONAL ANAESTHESIA. CAN PRACTITIONERS PREDICT SAFETY OBJECTIVELY?

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Background and Aims Nerve injury is a rare but well-known complication of regional anaesthesia and may arise from high pressure administration of local anaesthetic directly into nerve fascicles.

Safe injection pressures (< 20psi) ^{1,2} are subjective to estimate with manual injection, and this task is often delegated to skilled assistants. Pressure-limiting injection devices such as SAFIRA® (Medovate, UK) have been designed to reduce this risk.

This study measures injection pressures deemed 'safe' by experts and compares them with that of SAFIRA®.

Methods Following IRB approval and with consent, ten skilled Operating Department Practitioners (ODPs) and ten Anaesthetists were recruited to inject 0.9% Saline at the 'highest pressure they thought safe' using a series of syringes (2.5 ml, 5 ml, 10 ml, 20 ml and 50 ml) attached to a Fluke 700GO6® pressure transducer (Fluke Corp, WA, USA). One hundred measurements were recorded.

We then attached the SAFIRA® device (fitted with a 20 ml syringe) to the pressure transducer and measured the machine-limited pressure 100 times for comparison.

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Abstract 209 Figure 2

Abstract 209 Figure 3

Results In 21/100 manual injections, estimated 'safe' pressure was exceeded, with the highest measured at 44psi.

Though the data was skewed by a few individuals, 50% of ODPs and 30% of Anaesthetists injected at pressures ≥ 20 psi at least once (at all syringe sizes).

Cut-off pressures from SAFIRA® were consistently below 20psi.

Conclusions Practitioners best estimates of safe manual injection pressure is inaccurate. In contrast, a calibrated and engineered solution such as SAFIRA® does not require subjective user estimation.

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APPLICATION OF PERIPHERAL NERVE BLOCK ON A PATIENT WITH MULTIPLE SCLEROSIS

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Background and Aims Multiple Sclerosis (MS) is an autoimmune disease of the Central Nervous System (CNS) In our case, we present our anesthesia management applied on a MS patient. Our patient was 47 years old, 167 cm tall, 75 kg female and has been diagnosed with MS for 20 years. She had a left ankle fracture and had lower extremity surgery.

Methods After visualizing the sciatic nerve in sub-gluteal region with a linear US probe in lateral decubid position, the neurostimulator was started at 2 Hz frequency at stimulation level of 0.8 mA with 0.1 ms intervals. When motor response was seen, the stimulation level was reduced to 0.4 mA. When motor response disappeared, 20 ml of 0.5% Bupivacaine hydrochloride (100 mg) was administered around the sciatic nerve with an 80 mm block needle. Afterwards, the patient was put in supine position. 15 ml of 0.5% Bupivacaine (75 mg) was administered around the femoral nerve. Motor and sensory tests were applied 30 minutes after the procedure. Her vitals remained stable throughout the surgical operation. She was discharged to the orthopedic service.

Results When a nondepolarizing muscle relaxant is used, resistance or sensitivity has been observed as a result of proliferation of extra-connective cholinergic receptors due to upper motor neuron plaques (3). Most of the limited studies, support US-guided peripheral nerve blocks in MS and report that

this method should not be considered as a contraindication (4).

Conclusions PSB can be safely applied without increasing morbidity and avoiding possible complications that may arise from the results of other anesthesia approaches.

Postoperative pain management

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PAIN MANAGEMENT AFTER COMPLEX SPINE SURGERY: A SYSTEMATIC REVIEW AND PROCEDURE-SPECIFIC POSTOPERATIVE PAIN MANAGEMENT (PROSPECT) RECOMMENDATIONS

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Background and Aims Complex spinal procedures are associated with intense pain in the postoperative period. Adequate perioperative pain management has been shown to correlate with improved outcomes including early ambulation and discharge. We aimed to evaluate the available literature and develop recommendations for optimal pain management after complex spine surgery.

Methods A systematic review using the PROSPECT methodology was undertaken. RCTs and systematic reviews published in the English language from January 2008 to April 2020 assessing postoperative pain after complex spine surgery using analgesic, anaesthetic or surgical interventions were identified from MEDLINE, EMBASE and Cochrane Databases.

Results Out of 111 eligible studies identified, 31 RCTs and 4 systematic reviews met the inclusion criteria. Preoperative and intraoperative interventions that improved postoperative pain were paracetamol, COX-2 specific-inhibitors or NSAIDs, intravenous ketamine infusion and regional analgesia techniques

Abstract 211 Figure 1

including epidural analgesia using local anaesthetics with or without opioids. Limited evidence was found for local wound infiltration, intrathecal and epidural opioids, erector spinae plane block, thoracolumbar interfascial plane block, intravenous lidocaine, dexmedetomidine and gabapentin.

Conclusions The analgesic regimen should include preoperative or intraoperative paracetamol and COX-2 specific inhibitors or NSAIDs, continued postoperatively with opioids used as rescue analgesics. Other recommendations are intraoperative ketamine and epidural analgesia using local anaesthetics with or without opioids. Although there is procedure-specific evidence in favour of intraoperative methadone, it is not recommended as it was compared with shorter-acting opioids and due to its limited safety profile. Further qualitative RCTs are required to confirm the efficacy and safety of these recommended analgesics on postoperative pain relief.

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IMPACT OF INTRATHECAL DIAMORPHINE IN ENHANCED RECOVERY FOR COLORECTAL SURGERY; OPEN AND LAPAROSCOPIC

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Background and Aims There is currently a paucity of evidence in the utility of intrathecal diamorphine for resectional bowel surgery. We audited our departmental practice for perioperative analgesia in the provisions of anaesthesia services for bowel resections.

We looked at the use of a neuraxial block with intrathecal diamorphine, to determine if it has a positive impact on enhanced recovery. Specifically; post-operative opiate requirements, eating and drinking, and mobilising within 24 hours after surgery.

Methods A cohort of randomised patients were selected as per Perioperative Quality Improvement Project (PQIP) data collection protocol from June 2018 to June 2019, 48 patients were eligible. Data was collected from anaesthetic charts, electronic prescribing, and PQIP database. Criteria for data collection included intra- and post-operative analgesia; drinking, eating and mobilising within the first 24 hours of surgery.

Results 77% (n=37) of patients received intrathecal diamorphine perioperatively.

Patient controlled analgesia (PCA) morphine consumption is higher on average, 44 mg; 22 mg, in non-spinal patients.

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