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PREDICTING EPIDURAL SPACE SPREAD USING ULTRASOUND COLOR DOPPLER IMAGING IN INTERLAMINAR EPIDURAL STEROID INJECTION: A PROSPECTIVE OBSERVATIONAL STUDY

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Background and Aims While the use of fluoroscopy-guided transforaminal epidural steroid injection (TFESI) to help spread the injectate toward the ventral side has increased, this procedure entails a radiation risk. Recently, ultrasound has been widely applied in the medical field; among ultrasound methods, color Doppler is useful for predicting the direction of the injectate. This study describes a novel technique employing color Doppler to help predict epidural space spread in interlaminar epidural steroid injection (ILES).

Methods This observational study prospectively enrolled 35 patients scheduled for lumbar epidural steroid injection (ESI). Ultrasound-guided epidural injection was conducted and real-time images using color Doppler were recorded during injections of 5 mL of 0.1% ropivacaine containing contrast dye with dexamethasone. Fluoroscopy-guided TFESI was performed if it was difficult to perform the procedure based on ultrasound images.

Results The analysis included 30 images from 30 patients. The observed sensitivity, specificity, positive predictive value, and negative predictive values of the ultrasound color Doppler were 100%, 89.5%, 84.6%, and 100%, respectively. The agreement with ultrasound color Doppler was 93.3%.

Conclusions The main advantage of ultrasound-guided ILES is the lack of radiation exposure and contrast medium

requirement. Color Doppler may be a reliable imaging modality to predict epidural space spread during ultrasound-guided ILES. It is worth predicting the spread in the anterior epidural space (AES) by first attempting ultrasound-guided ESI. If the injectate has not spread to the AES, fluoroscopy-guided TFESI may be a good option after confirming the improvement of the patient's symptoms.

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LOW-DOSE, OPIOID-FREE SUBARACHNOID BLOCK AND US-GUIDED SUPRAINGUINAL FICB AS AN ANAESTHETIC/ANALGESIC TECHNIQUE IN PATIENTS WITH ASYMPTOMATIC, MILD TO MODERATE AORTIC STENOSIS UNDERGOING HIP FRACTURE SURGERY

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Background and Aims Aortic Stenosis (AS) is a relatively common valvular lesion in patients over 75. The significant risks associated with surgery may be mitigated by choice of anaesthetic technique and careful perioperative planning. Haemodynamic goals broadly aim to avoid hypotension and tachycardia and to preserve coronary perfusion pressure and systemic vascular resistance. Neuraxial blockade is traditionally taught to be a (relative) contraindication in this particular group of patients.

Aim: To assess perioperative pain scores and intraoperative hypotension after a technique comprising a low-dose, slow-titrated SAB and US-guided SIFI FICB in patients with mild-moderate disease as evidenced on TTE undergoing hip fracture surgery.

Methods IRB was obtained.

8 patients were enrolled prospectively over 6 months (Nov 2019 – April 2020)

All patients had a preoperative TTE to categorise disease severity.

Invasive arterial monitoring was instituted preoperatively in all patients.

US-guided SIFI FICB followed by a SAB (25G pencil point needle) was performed.

(30 ml 0.25% isobaric Bupivacaine and 7.5 mg hyperbaric Bupivacaine x 1 min, respectively).

No opioids were used.

Procedures Medical Center Institutional Review Board
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TITLE	The evaluation of ultrasound Doppler for the interlaminar epidural steroid injection in low back pain patients
PRINCIPAL INVESTIGATOR	Yoon Heung Kim
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Considered Options	PMCB has reviewed your documents and approved it on June 27, 2017
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This is to certify that the information contained herein is true and correct as reflected in the records of the PMCB Institutional Review Board. If you have any questions, contact PMCB (Tel: 02-2626-1000).

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Abstract 53 Figure 1

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Vasopressor boluses (Phenylephrine 50 mcg/ml) were administered if the MAP dropped by 10% of the initial value.

The number of bolused episodes was recorded.

All patients received an IV balanced crystalloid (10 ml/kg) at SAB insertion, followed by an infusion.

Pain scores (VAS) were documented perioperatively.

Results Conclusions

1. Slowly titrated, low-dose SAB in elderly patients with mild-moderate, asymptomatic AS did not develop precipitous hypotension.
2. MAP was relatively easily maintained with boluses of Phenylephrine (50mcg/ml).
3. US-guided SIFI FICB is an effective analgesic adjunct.

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CONTINUOUS SPINAL ANESTHESIA FOR OPEN CHOLECYSTECTOMY: CUSTOMIZED ANAESTHETIC MANAGEMENT IN A CHALLENGING PATIENT

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Background and Aims Continuous spinal anesthesia (CSA) provides fast onset titratable neuroaxial block. In the context of upper abdominal surgery on patients with acute respiratory disease offers minimization of respiratory complications and ensures adequate anaesthetic conditions.

We aim to present a CSA for open cholecystectomy in a patient with multiple neurological deficits and acute pneumonia.

Methods 60 years-old woman, 40 kg, 152 cm. Past history of rickets having severe skeletal deformation; hypertension; status post cerebellar tumor resection with multiple sequelae: loss of visual and auditory acuity, dysphagia, dysphonia, respiratory insufficiency and ventriculoperitoneal shunt. Admitted for urgent open cholecystectomy having alongside acute pneumonia with pleural effusion. Laboratory tests and current medication posed no contraindication to spinal anesthesia.

Spinal catheter 20G was introduced through 18G tuohy needle at L3-L4 level. On supine position the adequate block level was achieved using bed tilting and sequential doses of hyperbaric bupivacaine (total of 10 mg) and sufentanil (total of 10 mcg). During the 1h procedure there was no need for sedation. The spinal catheter was removed on the operating room (OR) after a morphine 100 mcg administration. Neither respiratory nor regional anesthesia complications were reported on the postoperative period.

Results Although a CSA in this patient was a challenge we considered that the benefits exceeded the risks and surpassed limitations of other techniques. The anaesthetic plan was sustained by careful communication with the patient and strict collaboration of the surgical team.

Conclusions CSA allowed a safe and effective management during the intraoperative period and optimized the postoperative recovery.

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TEMPORARY MENINGEAL SYMPTOMS AFTER EPIDURAL BLOOD PATCH

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Background and Aims Post-puncture headache – an unpleasant rare event. Associated with epidural and spinal anesthesia. With epidural anesthesia, its cause is an unintentional puncture of the inner leaf of the dura mater. With spinal, intrathecal puncture itself.

Methods 20 years of experience in post-puncture headache in a maternity hospital (~ 200 observations), associated with epidural analgesia in childbirth.

Results Almost 100% of observations – unintentional puncture of the inner leaf of the dura mater with an epidural needle. Manifests 6–18 hours after removal of the epidural catheter. In less than 50% of cases amenable to conservative treatment. Classical triad (bedrest, hydration, tylenol) – temporary unstable relief. Most have an epidural blood patch. In case of refusal, contraindications for filling, strict adherence to bed rest for 10–14 days. A single epidural blood patch with autologous blood with a volume of 10–20 ml in almost 100% permanently relieves a headache. Repeated epidural autologous blood filling is required only in 1–2% of cases. In 1–2% of our cases of epidural blood patch, we observed short-term, up to 3–5 days, development of meningeal symptoms, in particular, pronounced occipital rigidity against the background of complete disappearance of positional headache. This occipital stiffness looks quite frightening, but usually practically does not bother patients and regresses spontaneously by 5 days after a blood patch.

Conclusions A possible explanation for the development of meningeal symptoms immediately after an epidural patch is the ingestion of a small amount of autologous blood into the subarachnoid space, followed by irritation of the dura mater.

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CONTINUOUS SPINAL ANESTHESIA FOR KIDNEY TRANSPLANTATION IN SEVERE MITRAL REGURGITATION LUPIC PATIENT

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Background and Aims Anesthesia for kidney transplant on a patient with severe mitral regurgitation is a true challenge since a judicious hemodynamic management is needed to avoid pulmonary edema and ensure optimized reperfusion of the transplanted organ. A 49-year-old Caucasian female with chronic severe mitral regurgitation was scheduled for urgent kidney transplant due to end-stage renal disease caused by lupus nephritis.

Methods We performed the first described continuous spinal anesthesia in a patient with chronic severe mitral regurgitation undergoing cadaver donor kidney transplant. Echocardiography and serial blood gas analysis were monitored.

Results Cardiac output monitoring confirmed absence of impaired ventricular function or worsening of mitral regurgitation during the installation of subarachnoid block. We used a total of 10 mg bupivacaine and 10 mg sufentanyl and had no need of vasopressor use during block installation and all the intra-operative period. No sedation was administered.

Conclusions Continuous spinal anesthesia provides potential advantages over other forms of neuraxial anesthesia, since low doses of local anesthetic could be titrated during all the