

Psoas compartment block for intraoperative anesthesia for fracture neck of femur: Case report

Madam,

Delivering anesthesia to high-risk patients who have sustained a fractured neck of femur (NOF) can be challenging. The decision is largely dichotomous with either a general anesthetic (GA) and/or a regional technique which commonly includes a subarachnoid block (SAB) or a combination of a sciatic and lumbar plexus (LP) block.^[1,2] LP blocks in singularity are not well-described in the literature.^[3]

We report an LP block as the sole anesthetic technique in a 66-year-old female, who suffered from dementia, and sustained a left NOF fracture following a fall. She had a significant co-morbid history for ischemic heart disease and

myocardial infarction, type 2 diabetes, recent PE and transient ischemic attacks, on clopidogrel. Routine investigations were unremarkable, and she remained hemodynamically stable. Antiplatelet agents contraindicated a SAB, and we hoped to avoid potential cognitive decline and hemodynamic insult associated with a GA, so third party consent was obtained for an LP block with conversion to GA if unsuccessful.

With intravenous access, standard monitoring, nasal oxygen, and midazolam 1.5 mg, she was positioned in the right lateral position. Landmarks were identified, and both an intercrestal line and parasagittal line were marked. At their intersection, following local anesthetic (LA), a 100 mm Stimuplex Insulated Needle (SonoplexStim Cannula 21G Pajunk, Geisingen, Germany) was inserted with a nerve stimulator. Using a loss of resistance technique, the psoas compartment was reached on the second pass and a quadriceps contraction elicited. While maintaining a motor response with <0.4 mA and negative aspiration, a test dose of 2 ml of 1% ropivacaine (Ropivacaine Sandoz, NSW, Australia) was injected. The twitch disappeared, and the patient was able to move her toes

without pain. The remaining 18 ml of ropivacaine was injected in 5 ml aliquots with repeated aspiration. Ipsilateral sensory block was elicited after 5 min from L1 to L4 followed by complete motor blockade within 10 min. Following appropriate positioning, the orthopedic surgeons were able to repair the fracture with no further requirement for any analgesia or sedation. The only complaint was pain in the right hip from associated traction which was completely relieved upon release of pressure. Postoperatively, she had hypotension from surgical blood loss, which was replaced with red blood cells and she did not have any cognitive issues.

Surgical repair of an NOF fracture requires reliable anesthesia, which this technique has demonstrated, around the hip and thigh involving the femoral, obturator, and lateral cutaneous nerves. The sciatic nerve innervates the joint capsule, but this technique suggests the potential of spread of LA within the psoas compartment and therefore avoidance of a parasacral sciatic nerve block. Many anesthetists overlook LP blocks following Auroy *et al.*'s publication but we feel many of these described complications can be avoided with careful technique.^[4] Similarly, unlike Nysora guidelines, we have demonstrated safe application in the presence of antiplatelet agents as long as passes are limited and small volume LA deposition accompanied by frequent aspiration.^[5,6]

In conclusion, a single shot LP block in experienced hands can be effective in managing NOF fractures.

Acknowledgments

I appreciate Dr. Venkatesan going through the manuscript.

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Access this article online	
Quick Response Code:	Website: www.joacp.org
	DOI: 10.4103/0970-9185.173333

How to cite this article: Kadam VR, Reid D. Psoas compartment block for intraoperative anesthesia for fracture neck of femur: Case report. *J Anaesthesiol Clin Pharmacol* 2018;34:264-5.