CASE REPORT

Combined Axillary Block with Spinal Block Anaesthesia
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ABSTRACT

Background: Patients undergoing upper limb trauma surgery have reported various benefits of regional anesthesia over general anesthesia, including better perioperative analgesia, less opiate use, less postoperative nausea and vomiting (PONV), and a shorter post-anesthesia care period.

Case Illustration: We reported an evaluation of 72 years old, 165 cm height and 60 kg weight male patient who was planned for open reduction and internal fixation surgery for neglected left radius ulna close fracture and left neglected tibia fibula close fracture that he was beneath follow-up for hypertension (HT), and was using antihypertensive drugs. Preoperative risk of the patient was assessed as with American Society of Anesthesiologists (ASA) with score 3. General anesthesia would be unsafe due to geriatric issue, cardiovascular problem and delayed surgery term, we choosed to utilize combine axillary block with spinal block. we utilized USG guided infusion procedure in arrange to diminish local anesthetic dosage, and minimize error. During surgical procedure there is no hypotension, bradycardia or decreased oxygen saturation. Surgical anesthesia occurred in left hand within 20 minutes after drugdelivery and 10 minutes in lower extremity. Surgery complications was not reported particularly related to vascular punction or adjacent anesthetic and nerve block applications. No complaint was detailed from the patient who was watched for 12 hours after the surgery.

Conclusion: Peripheral nerve block and neuraxial block, when utilized appropriately in combination, appear be able to supplant common anesthesia within the larger part of case.

Keywords: axillary block; spinal block; combined anesthesia
INTRODUCTION

Supraclavicular, infraclavicular, interscalene, and axillary approaches can be used to block brachial plexus. The approach to be utilized may shift depending on the surgery location, professional involvement, and patient’s anatomy. Brachial plexus blockage may be a strategy utilized to supply intraoperative anesthesia and postoperative pain management within the surgery of hand and lower arm\textsuperscript{1-3}. Different procedures are applied in axillary plexus blockade. The utilize of peripheral nerve stimulation is named as ‘blind technique’ and isn’t conceivable to imagine the target tissues with this procedure\textsuperscript{4-6}. Blind procedure may have complications due to re-interventions\textsuperscript{7,8}.

Ultrasound usage in regional anesthesia is progressively ended up far reaching with the improvement of ultrasonographic (USG) innovation and expanded picture quality. In this manner, the utilize of ultrasound in peripheral nerve block gives us various focal points. Nerve blockade with ultrasonography diminishes complication hazard by coordinate visualization of the block needle and gives significant block success, lower-dose nearby anesthetic volume, decreased for rescue analgesia, decreased procedural pain, and diminished chance of vascular and pleural punction\textsuperscript{7}.

Brachial plexus block is suitable technique for forearm surgery because it provides good intraoperative and prolong postoperative analgesia when long-acting anesthetics are used, and also a good alternative choice when general anesthesia would be unsafe due to geriatric issues, cardiovascular problems, less opiate use, less postoperative nausea and vomiting (PONV), and a shorter post-anesthesia care period\textsuperscript{9,10}.

Combine axillary block with Spinal blok of brachial plexus is seldom used since of the chance for systemic local anesthetic harmfulness. Hence, upper and lower extremity surgery favors the usage of general anesthesia. The utilize of ultrasound gives simple visualization of the nerve structure and vascularization, and may be accommodating in brachial plexus blockade\textsuperscript{11}.

We present our case report in encounter on combine axillary block with spinal block anesthesia that we connected in a patients planned for upper and lower extremity surgery.
CASE ILLUSTRATION

Evaluation of a 72 years old, 60 kg weight and 165 cm height male patient preoperatively who was planned for open reduction and internal fixation surgery for neglected left radius ulna close fracture and left neglected tibia fibula close fracture that he was beneath follow-up for hypertension (HT), and was using antihypertensive drugs. Preoperative risk of the patient was assessed as with American Society of Anesthesiologists (ASA) with score 3. General anesthesia would be hazardous due to geriatric issue and delayed surgery length of the patient, we chosen to utilize combine axillary block with spinal block.

The patients were instructed approximately that he will experience upper and lower nerve block, and change to general anesthesia may well be required on the off chance that the block isn’t adequate. Standard patient observation was carried out with pulse oximetry, noninvasive blood pressure, and electrocardiography within the regional anesthesia application room. 18 G cannula used to obtain intravenous (IV) access from the right-hand region with 18 G cannula. Oxygen supplement was given.

Patient’s head was turned inverse to the place of the block initiation in supine position. The arm which the nerve block occur was positioned, and taking after cleansing of the region with povidone iodine, a sterile USG with longitudinal probe test was embedded to the axillary region. 2 mL local anesthetic was conveyed with 20G nerve stimulation needle and when the spread was observed, the remaining local anesthetic was conveyed with intermittent aspiration. Local nerve block was observed to be isolated around the lateral, posterior, medial axillary artery, and musclecutaneous nerve. Total volume of 20 mL was managed for a single extremity with 20 ml of 0,75 % ropivacaine. The lower extremity with spinal block anesthesia begin with desinfect the skin with povidone iodin and alcohol 70% and evacuation of abundance spinal cut was performed within the lateral right side of the patient, by the medial line within the L3-L4 interspaces utilizing 26G Quincke needle. After cerebrospinal liquid (LCS) appear, 15 mg of 0.5% hyperbaric bupivacaine with 25mcg adjuvant fentanyl were administered.
Figure 1. Neglected left radius ulna close fracture and neglected left tibia fibula close fracture

Figure 2. Needle insertion for in-plane ultrasound-guided axillary brachial plexus block anesthesia. The patient was positioned.

Figure 3. USG Visualization of nerves around the axillary artery, radial nerve; ulnar nerve; median nerve; and musculocutaneous nerve

Figure 4. Post operative of open reduction and internal fixation surgery for neglected left radius ulna close fracture and neglected left tibia fibula close fracture that under axillary block combined with spinal block anesthesia.

The patient was put in supine position to the beginning of surgery. Within the extremity to be worked, the level of sensory block (tried by pinprick) was watched in T10. During surgical procedure there is no hypotension, bradycardia or decreased oxygen saturation. Surgical anesthesia occurred in left hand within 20 minutes after drug delivery and 10 minutes in lower extremity. Surgery complications was not reported particularly related to adjacent anesthetic and nerve block applications or vascular punction. Extra
local anesthetic infusion or sedation was not required amid the surgery. The surgery endured about 5 hours in the left hand and 4 hours in left limb without patient complaining any pain feeling and other issue. No pain complaint was reported from 12 hours postoperative observation of the patient.

DISCUSSION

Peripheral nerve blockade is an anesthetic strategy as a rule favored within the upper extremity surgery. The approach of brachial plexus blockage may be utilized to supply intraoperative anesthesia and postoperative pain management within the surgery of hand and lower arm. Supraclavicular, infraclavicular, interscalene and axillary approaches can be used to block brachial plexus. Depending on the operation location, professional’s experience, and anatomy of the patient, the approach to be utilized may change. The combination with spinal block utilization is greatly uncommon in spite of the fact that brachial plexus blockage is generally utilized as one-sided approach, and as a rule in frame of case reports or exceptionally little arrangement. Anesthesiologist do not choose combine block applications since requires additional invasive intervention, time consuming, failure risk of low dose administration, and high local anesthetic dose toxicity risk. Mangla et al., reported that they completed the surgery by performing bilateral brachial plexus block and no complications was reported. Kim et al., also reported that bilateral brachial plexus block was successful without any complications for bilateral upper extremity surgery in a patient with cervical spinal cord injury. In our case, General anesthesia would be unsafe due to geriatric issue and delayed surgery term, we decided to utilize combine axillary block with spinal block.

Peripheral nerve stimulation is named as “blind” procedure, since it is outlandish to imagine the needle and focused on tissues. A standard strategy using nerve stimulation with needle in blockage applications is used for approximately 30 years. In this strategy remove to the nerve can be evaluated concurring to muscle contractions innervated by the nerve. USG gives a synchronous visualization of the needle, the dissemination of adjacent anesthetic among the infusion, and structures that must be spared such as the vessels and pleura, and. Therefore, USG guided nerve block have been vastly used recently. In expansion, lower needle developments compared to the nerve
incitement quiet consolation and adequacy of the method. In our patient also we utilized USG guided infusion procedure both in arrange to diminish the dosage local anesthetic, and minimize failure.

CONCLUSION

Regional anesthesia many have more advantages compare to general anaesthesia in extremity operation. Peripheral nerve block and neuraxial block, when utilized appropriately in combination, appear be able to supplant common anesthesia within the larger part of case.

We think that axillary block can be securely connected as combined with spinal block, since the utilize of USG gives simple visualization of the vascular and nerve structures, and empowers noteworthy decrease of nearby anesthetic doses.

REFERENCE


