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CASE REPORT

Phrenic Sparing Shoulder Block: A Case Report

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SUMMARY

Interscalene block is used for shoulder surgeries however it almost always results in phrenic nerve palsy[1,2]. Some anaesthesiologists have described careful ultrasound guided low volume (5mls only) of local anesthetic interscalene block which does not cause hemidiaphragmatic paresis[3]. However we present to you a case where we implied a recently described technique of phrenic sparing involving a combination of oblique infraclavicular brachial plexus block with subomohyoid suprascapular nerve block.
Keywords: Shoulder block, phrenic nerve palsy,

CASE REPORT

We present to you a case of a 45 years old male weighing 98 kg heighted 158 and with a BMI of 39.3. He was also a 30 pack year smoker with COPD (GOLD II class on spirometry) and was labeled as ASAIII. The patient was scheduled for arthroscopic repair of right shoulder labral tear. General anaesthesia with intubation and controlled ventilation was implied and the ultrasound guided (USG) block was placed with 20mls of 0.2 % bupivacaine at infraclavicular area and 10 mls of 0.2% bupivacaine below the omohyoid muscle to block suprascapular nerve for analgesia purpose.

The procedure lasted for about 3 and half hours and the intraoperative course remained uneventful. At the end of the procedure extubation was done in awake plane and patient was propped up. Immediate and early recovery periods were smooth and patient was shifted from post-anaesthesia care unit (PACU) after 1 and half hours.

Block lasted for about seven hours at which time patient was kept on oral analgesics. Patient was discharged on second postoperative day and followed-up after 1 week with no any complains.

DISCUSSION

Interscalene technique provides optimal conditions for shoulder surgery however the resultant phrenic nerve block is a limiting factor especially in patients who have COPD, patients with respiratory insufficiency patients having history of lobectomy, pneumonectomy or pleural effusions and obese patients. While low volume blocks with ultrasound guidance have been described for phrenic sparing, sometimes the phrenic nerve is difficult to visualize on ultrasound owing to its small size (<1 mm) or sometimes it may be found in the interscalene space in which case it may be impossible even with small volumes to spare the phrenic nerve[4,5].

Oblique infraclavicular brachial plexus block combined with subomohyoid suprascapular nerve block provides an alternate for shoulder surgery with phrenic sparing[6,7]. A similar case has been reported in which a patient with moderate to severe COPD was successfully operated at shoulder after similar block[8]. Other options reported include erector spinae plane block and selective supraclavicular with axillary block combinations for shoulder surgery with phrenic sparing[9-11].

Whichever technique is opted for, the main purpose is to avoid phrenic nerve palsy in patients with already impaired respiratory function and this is what we achieved in our patient.

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CONCLUSION

Oblique infraclavicular brachial plexus block alongwith subomohyoid suprascapular nerve block is an alternative to interscalene block for shoulder surgery with the added advantage of phrenic sparing and thus preventing hemidiaphragmatic paresis which may not be tolersted well in patients with already compromised respiratory function.

Conflict of interest: Nil

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