Anterior approach to suprascapular nerve block combined with axillary nerve block for shoulder arthroplasty

Omuz artroplastisinde anterior yaklaşımla supraskapular sinir bloğu ile aksiller sinir bloğu

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Summary

Arthroscopic operations of the shoulder are associated with postoperative pain which can lead to chronic pain if not treated effectively. The classic posterior approach for the suprascapular nerve is associated with higher technical failures and it is more painful procedure for the patients. We report a case of a 72-year-old male patient who underwent right shoulder arthroplasty. We performed ultrasound guided suprascapular nerve block with anterior approach, combined with axillary nerve block, and provided effective analgesia.

Keywords: Anterior approach suprascapular nerve block; postoperative pain; shoulder arthroplasty.

Özet

Omuzun artroskopik operasyonlarında postoperatif ağrı etkili bir şekilde tedavi edilmezse kronik ağrı gelişebilir. Supraskapular sinir bloğunda klasik posterior yaklaşım daha yüksek oranda teknik başarısızlık ile ilgilidir ve hastalar için daha ağrılı bir işlemdir. Bu olguda, elektif sağ omuz artroplasti operasyonu olan ve etkin postoperatif analjezi sağladığımız 72 yaşındaki erkek hastaya uyguladığımız ultrason eşliğinde aksiller sinir bloğu ile anterior yaklaşımla yapılan supraskapular sinir bloğu ele alınmıştır.

Anahtar sözcükler: Anterior yaklaşımla supraskapular sinir bloğu; postoperatif ağrı; omuz artroplastisi.

Introduction

Arthroscopic operations of the shoulder are associated with postoperative pain which can lead to chronic pain if not treated effectively. Due to the risk of complications, more peripheral blocks are now preferred.^[1] The classic posterior approach for the suprascapular nerve is associated with higher technical failures^[2] and it is more painful procedure for the patients. We would like to report a case that we performed ultrasound guided anterior approach suprascapular nerve block as Siegenthaler et al.^[3] described combined with axillary nerve block.

Case Report

A 72-year-old male patient weighing 80 kg and height of 175 cm, with ASA physical status II (with hypertension and diabetes) presented for a right

shoulder arthroplasty. Patient was consented with suprascapular and axillary nerve blocks. A written consent to publish was obtained.

A linear high frequency ultrasound was used (Esaote MyLab 5i, Florence, Italy). To perform suprascapular block, probe was placed to the supraclavicular area and brachial plexus was visualized. As the probe slid to laterally, suprascapular nerve was identified under omohyoid muscle while leaving the brachial plexus (Fig. 1). A 22G, 50 mm needle was inserted in-plane approach and 5 mL of 0.25% bupivacaine was injected around the nerve. Later, axillary nerve block was performed with 5 mL of 0.25% bupivacaine.

General anesthesia was induced with 2 mg/kg propofol, 1 mcg/kg fentanyl, 0.6 mg/kg rocuronium and maintained with desflurane in 60% N2O/40% oxygen.

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Figure 1. Ultrasound image of anterior approach to suprascapular nerve.

BP: Brachial plexus; SCN: Suprascapular nerve; O: Omohyoid muscle.

Surgery lasted two hours and completed uneventfully. Patient was administered 1 gr paracetamol iv and provided with iv patient-controlled analgesia device containing morphine 0.5 mg/mL-1, set to deliver a 1 mg bolus dose of morphine, with an 8 min lockout time and 6 mg 1 h limit.

Patient was pain free in the 8 hours (VAS=0). He first reported pain at the postoperative 8th hour (VAS=2) and responded to 1 gr paracetamol iv. At postoperative 24th hour, the patient had no pain and his morphine consumption was 5 mg.

Discussion

The suprascapular nerve arises from the superior trunk of brachial plexus, lies under the omohyoid muscle and passes posteriorly towards to scapula.^[3] It is possible to visualize the nerve under omohyoid muscle and suprascapular block can be performed with anterior approach more easily than classic posterior approach with a higher patient comfort.

Dir et al.^[4] compared combined suprascapular nerve and axillary nerve blocks with interscalene block in arthroscopic shoulder surgery and they found that interscalene block provided better analgesia in the immediate postoperative period. However, combination of suprascapular nerve and axillary nerve blocks provided better quality pain relief at rest with fewer adverse effects and they concluded that for shoulder surgery. Similar to this study, we provided effective analgesia, and anterior approach to suprascapular nerve was painless, unlike classic posterior approach to suprascapular nerve block.

In conclusion, although this case demonstrates anterior approach to suprascapular nerve produces effective analgesia combined with axillary nerve block in a patient who underwent shoulder arthroplasty, future randomized controlled trials should be performed.

Informed Consent: *Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.*

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