Sensory selective peripheral nerve block for wide-awake surgery – case report

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In hand and wrist surgery, wide-awake surgery is favored for simultaneous evaluation of active joint movement and surgical correction. Ultrasound-guided sensory selective peripheral nerve block (SSPNB) can provide safe and reproducible wide-awake anesthesia to more invasive or extensive surgeries.

CASE

A 57-year-old male patient was diagnosed with right distal radioulnar joint arthritis and ulnar impaction syndrome. Sauve-Kapandji operation (Fig. 1.) was performed under the infraclavicular brachial plexus block (BPB). The procedure was completed, he complained of clicking in his right wrist particularly during supination and pronation. Corrective surgery was performed under infraclavicular BPB only to result in persisted snapping and request another correction. The surgeon required an anesthesia modality to preserve the supination during the surgery.

Ultrasound-guided SSPNB (Fig. 2.) was planned. First, cutaneous sensory nerves of the medial forearm were individually examined and blocked; the medial and posterior antebrachial cutaneous nerves, and the sensory branches of the ulnar nerve and the median nerve. Additionally, the posterior and anterior interosseous nerves were independently blocked to maintain analgesia of the interosseous membrane.

Cold and pain sensation were evaluated to confirm the acceptability of the surgical anesthesia and the patient was asked to flip his palm facing up and down to ensure his full range of motion was practiced and the problematic clicking was represented. The surgical procedure was performed successfully monitoring the patient's active supination-pronation (VIDEO).

Fig. 1. The Sauve-Kapandji procedure

- osteotomy of the ulnar neck
- anchoring of the pronator teres to the ulnar stump

Dx. right distal radioulnar joint arthritis and ulnar impaction syndrome

Fig. 2. Description of our ultrasound guided SSPNB.

- Along the **median nerve**, (1) the sensory branch to the forearm was targeted before its division to the palmar branch and (2) the anterior interosseous nerve after its division to the pronator teres.
- Tracing the **radial nerve**, (3) the posterior antebrachial cutaneous nerve was aimed away from the radial nerve and (4) the PIN away from the branches to the supinator.
- The sensory branch of the **ulnar nerve** was blocked (5) after its divergence to the forearm muscles.
- The **medial antebrachial cutaneous nerve** was also blocked (6) lying lateral to the basilic vein.