

117. Evaluation of adding fentanyl to lidocaine for supraclavicular block

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Purpose of the study: Evaluation of adding fentanyl to %1.5 lidocaine for supraclavicular block for upper extremity surgery.

Material and methods: We performed a prospective, randomized double blinded study in 60 patients undergoing hand or forearm surgery. Group 1 (30 patients) received 30 ml %1.5 lidocaine and group 2 (30 patients) received 30 ml %1.5 lidocaine plus 100 mcg fentanyl for supraclavicular brachial plexus block. The onset and duration of anesthesia, hemodynamic changes, and complications were compared.

Results: The onset time of anesthesia in group 2 (15 ± 1.75) was longer than group 1 (16.6 ± 1.9) ($p < 0.01$). Duration of anesthesia in group 2 (225.5 ± 26) was longer than group 1 (185.2 ± 12.3) ($p < 0.005$). There was no significant difference between systolic and diastolic blood pressure and heart rate before and after block in the two groups.

Conclusion: Addition of fentanyl to lidocaine solution for supraclavicular block caused longer duration of anesthesia.

136. Interscalene catheter through the posterior approach

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Interscalene Catheter is usually introduced via the anterior approach. We describe the technique of brachial plexus catheterisation at the interscalene level through posterior approach based on Pippa* technique.

Technique: Patient sitting or lateral with operated side uppermost. Routine monitoring attached. Sedation with verbal contact maintained. Locate C7 prominence. Midline of corresponding interspace drawn. Introduction point is 3cm from midpoint of interspace. LA skin infiltration, and deep tissue infiltration. A 70mm Braun Contiplex stimulating needle is used. Introduced perpendicular to skin and to all planes. No attempt to contact transverse process. Stimulation level set at 1mA 1Hz and 0.1msecs. At 30-40mms depth a scapular elevation or shoulder-shrug is obtained. The needle depth is noted, advancement is maintained slowly until a distal twitch, ie biceps, forearm or wrist is observed. The stimulus is reduced to 0.5mA until a muscular twitch is still present. LA up to 10ml is then injected slowly through the needle after aspiration. The catheter is introduced with 3-4cms left in situ. A suitable dressing, ie mepore, is used to secure the catheter. The injection part is brought towards the non-operated shoulder.

Results: 60 catheters were attempted. There were three technical failures, ie unable to obtain a distal twitch. Catheterisation is difficult, ie kinking and unable to thread beyond the 10cms mark in the absence of 'prefilling' the interscalene space.

Analgesia was excellent in all cases except those where catheterisation was accomplished in the presence of a proximal twitch.

Tunnelling or stitching the catheter is not necessary as the muscle bulk helps to anchor the catheter. However, care must be taken when surgical drapes are removed.

Pain from muscle trauma due to needling or catheter trauma was not reported. However, procedural pain due to inadequate LA infiltration was common.

No case of Horner syndrome (dysphonia) was reported even after a loading dose of LA (30-40 of dilute mL) and following infusion (5-10mL) of LA.

Conclusion: The posterior approach is technically more demanding than the single shot anterior approach. However, the avoidance of catheter tunnelling, stitching and common side effects, ie Horner, suggest that this approach may be offered as a useful alternative.

Reference:

Brachial plexus block using the posterior approach: P Pippa, E Cominelli, C Martinelli and S Aito; European Journal of Anaesthesiology 1990, 7, 411-420