

Ultrasound guidance for interventional pain management of lumbar facet joint pain: An anatomical and clinical study

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There is a growing trend in ultrasound use in interventional pain management. Recently, the ease of use and clinical benefits of lumbar medial branch nerve block under ultrasound guidance have been identified. In this study, we assessed the relevant anatomy and sonoanatomy of these specific interventional techniques. We also evaluated the feasibility and success rates of ultrasound guided lumbar medial branch nerve block.

Patients and Methods: Selected patients with facet joint pain who were referred to the Akhtar hospital pain clinics were evaluated. Ultrasound-guided lumbar medial branch nerve blocks were performed. The target point for the lumbar nerve block was the cephalad margin of the transverse process groove in the vicinity of the superior articular process. C-arm fluoroscopy was performed to confirm the needle location. Pain levels were measured by a visual analog scale (0 - 10 scale), the Oswestry disability index (0 - 5 scale), and patient satisfaction scores (0 - 3 scale). The patients were followed for 6 weeks.

Results: The success rate was 98%, which was due to our use of ultrasound guided needle placement for the correct positioning of the needles. The mean procedural time was 5.9 ± 1 minutes. The average time of needle insertion was 4 ± 1 minutes. The pain intensity significantly improved from an initial value of 5 to 2.8 in the final follow-up ($P = 0.0001$). The Oswestry disability index score significantly improved from 33.9 to 18.3 in the final follow-up ($P = 0.0001$). Patient satisfaction significantly improved from poor satisfaction immediately after the medial branch nerve block to excellent satisfaction in the final follow-up ($P = 0.0001$). Analgesic requirements were also significantly reduced after 6 weeks of follow-up ($P = 0.046$).

Conclusion: Lumbar medial branch nerve block under ultrasound guidance was associated with high rates of treatment success and excellent treatment outcomes for facet joint pain. It is also feasible and administers no radiation. Thus, ultrasound-guided procedures can be used instead of conventional methods.

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