

Body Mass Index (BMI) as a Predictor on Spinal Needle Length used for Medial Branch Blocks

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Introduction

Medial branch block is a common procedure requiring image guidance. A 3.5-inch needle is sufficient for most patients. In patients with deeper lumbar medial branch due to body habitus, a 5-inch needle may be required. It is often difficult to guess what length needle the patient may require, leading to unnecessary use of a 5 inch needle or switching to 5inch after a failed attempt with a shorter needle. . The goal of this project was to determine if there is a correlation between a patient's body mass index (BMI) and needle length for a lumbar medial branch block.

Methods

All patients underwent a lumbar medial branch nerve block at L4,5, S1 vertebral levels. Either 22 gauge 3.5-inch and 5-inch spinal needles were used for the lumbar medial branch blocks. Those requiring longer needles were not included. Additionally, the BMI were collected along with the needle length needed to adequately perform the procedure.

Results

For 50 patients who underwent lumbar medial branch blocks, 11 required 5-inch needles, and 39 were successfully completed with 3.5-inch needles. Patients had a BMI range from 17.94 to 43.36 and an average of 29.90 in those where 3.5-inch needles were appropriate to successfully perform the procedure compared to a BMI range from 33.61 to 52.2 and an average of 42.13 for patients requiring a 5-inch needles.

Discussion

Patients who required 5-inch spinal needles had a higher BMI range and average. Based on this study, those with BMI of 40 or greater will likely need a 5-inch needle, whereas 3.5-inch needle should be sufficient for those with less than 40 BMI for performing lumbar medial branch blocks.

