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Ultrasonography to assist Spinal Anesthesia in Obese Patients undergoing surgery

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Abstract

Introduction: The global population of obese individuals is steadily rising. However, there is limited knowledge about the most suitable anesthetic techniques for surgeries in obese patients.

Patient Concerns: 33 Years of male with body mass index 35.7 kg/m^2.

Diagnosis: The patient was obese with right ACL tear.

Interventions: Pre-procedural ultrasonography was performed to precisely localize interspinous spaces, accurately identify midline, and estimate needle depth for spinal anesthesia. A spinal needle was inserted into the marked L4-5 interspinous space in the sitting position. After confirmation of cerebrospinal fluid, 0.5% hyperbaric bupivacaine 15 mg and fentanyl 20 µg were injected into the subarachnoid space.

Outcomes: After the administration of spinal anesthetics, the nerve block to the T8 dermatome level was confirmed, and surgery was performed. The patient's vital signs were stable until the end of the operation.

Conclusion: This case highlights the efficacy of ultrasound guidance in administering spinal anesthesia to obese patients, particularly when traditional landmark identification is difficult. Ultrasound allows for precise localization of interspinous spaces, accurate midline identification, and estimation of needle depth, thereby increasing the likelihood of successful anesthesia administration.

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