76. PROSPECTIVE EXPERIENCE WITH 20 GAUGE TOUHY NEEDLE FOR LUMBAR EPIDURAL STEROID INJECTIONS: IS CONFIRMATION WITH FLUOROSCOPY NECESSARY?

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Background & Objectives: Small (20 gauge) Touhy needles have been introduced for epidural steroid injection to improve patient comfort and decrease risk of spinal headache. These needles may be less reliable than standard 17-18 gauge needle due to their small size. We prospectively examined success rate of lumbar epidural steroid placement with loss of resistance technique versus fluoroscopy.

Methods: 100 patients without history of lumbar spine surgery were enrolled. A 20 gauge Touhy needle was placed with loss of resistance to saline by either Fellows in Pain Management or senior anesthesiology residents (CA3) supervised by attending anesthesiologists with subspecialty certification in Pain Management. Confidence in epidural placement was recorded (Y/N). Radiologic contrast was then injected and a fluoroscopic epidurogram interpreted off-line by a blinded radiologist for correct placement (Y/N).

Results: Reliability of loss of resistance was less than fluoroscopy ($p<0.004$). Sensitivity of loss of resistance was 99%. Specificity was 27%. Positive and negative predictive values were 92% and 75%. Increased patient age (>70 yrs) and male gender were associated with poor reliability of loss of resistance ($p<0.02$).

Conclusion: In contrast to reported 99% success rates for epidural placement of standard 17-18 gauge Touhy needles (1), we observed a success rate of 92%. Small gauge Touhy needles are technically more difficult to use and may require confirmation with fluoroscopy for correct epidural placement, especially in elderly male patients.

1) Sharrock NE, Urquhart B, Mineo R. Extradural anaesthesia in patients with previous lumbar spine surgery. B J Anaesth 1990: 65: 237-9.

Measurement	Correctedly identified by loss of resistance (N=91)	False positive or negative (N=9)
Age (yr)	57 (16)	71 (5)*
Weight (kg)	75 (14)	80 (9)
Height (cm)	168 (10)	172 (8)
Gender (F/M	46/45	1/8*
Vertebral level (median/mode)	L4/L4	L4/L4
Depth at loss of resistance (cm)	5.6 (1)	5.7 (1.1)
Number of attempts (median/mode)	1/1	2/2
Diagnosis (N)		
Disc disease	61	3
Spinal stenosis	23	4
Degenerative joint disease	15	2

Data are mean (SD) unless otherwise noted.
*=different from patients correctly identified with loss of resistance ($P<0.02$).