

Introduction

- Epidurals have been used for years to provide analgesia to laboring parturients.
- The traditional method: loss of resistance in the epidural space involves subjective tactile sensation. A loss of resistance indicates that the tip of the needle is in the epidural space
- However, there can be a false loss of resistance and multiple redirections of the needle may be necessary before finding the epidural space.
- The CompuFlo Epidural System (CES) provides objective pressure measurements from the tip of the Tuohy needle and realtime feedback during epidural placement (1).
- CES can help with safer epidural placement and reduce the number of epidural related complications. We aim to describe the number of attempts at epidurals and redirections using CES.

Methods

- Retrospective review of 51 obstetric patients (age 18-50 years old of any parity) at one institution who received epidural analgesia using Compuflo during labor between Sept 2021 and Jan 2022.
- The number of attempts (a fresh stick at the same or different vertebral level), redirections (defined as a change in the angle of the Tuohy needle but not starting at a different vertebral level) were analyzed.

Results

Patient Characteristics	
	Mean (SD)
Age (years)	22.4 (±5.4)
BMI (kg/m^2)	33.7 (±7.4)
Height (m)	1.59 (±0.01)
Weight (kg)	88.7 (±25.4)

	Percentage
Placed in 1 attempt	88.2% (45/51)
Placed in 2 or more attempts	11.8% (6/51)
Number of redirections	15.7% (8/51)

Epidural Performer Type	
Faculty	6
Fellow	8
PGY-4	16
PGY-3	12
PGY-2	8

Conclusion

- While this study is small, the CES is a useful adjunct in epidural placement with high success rates and low number of redirections.
- In studies involving similar level of training in physicians placing the epidural, the rate of epidural placement in the first attempt is reported to be 69%-79.6% (2, 3), compared to 88.3% first attempt placements in our study.
- Reported needle redirection was needed in 33% compared to 15.6% in our study (4). This study provides objective data while increasing success rate with placement of epidural in 1 attempt thereby decreasing the risk of pain that the parturient experiences in epidural placement.

References

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