# When labour epidurals fail: An audit of management prior to caesarean section

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## Introduction

- Conversion of labour epidural analgesia to surgical anaesthesia for Caesarean section (LSCS) is common practice.
- Failure of epidural analgesia may result from catheter misplacement, anatomical variation, or inconsistent drug spread.[1]
- Following a failed epidural, spinal anaesthesia carries additional risks, including high block, haemodynamic instability, and potential need for general anaesthesia, particularly if intrathecal dosing is suboptimal.[2]

## Aims and objectives

Aim :
To assess outcomes following spinal anaesthesia in women with failed labour epidural undergoing Caesarean section.

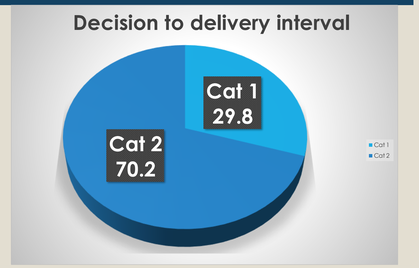
Objectives:
- To determine rates of high spinal block and general anaesthesia conversion
- To evaluate the impact of intrathecal dose variation on outcomes
- To assess haemodynamic stability following spinal anaesthesia

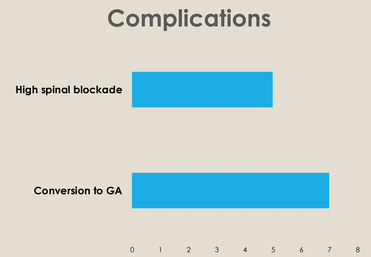
## Methods

- A retrospective audit was undertaken in 57 parturients undergoing LSCS following failed labour epidural analgesia.
- Data collected included patient demographics, intrathecal local anaesthetic dose, epidural catheter insertion level,and extent of epidural sensory blockade.
- Outcomes following spinal anaesthesia with hyperbaric bupivacaine doses ranging from 7.5 mg (1.5 mL) to 12 mg (2.4 mL), combined with 300 micrograms of diamorphine, were evaluated.
- This includes haemodynamic events, incidence of high spinal block, and the need for conversion to general anaesthesia

## Results

- A retrospective audit was conducted over a six-month period from April to October 2025.
- The mean patient age was 27.8 years, and the mean body mass index (BMI) was 27.4 kg/m².
- Seventeen cases (29.8%) were classified as category I urgency, while 40 cases (70.2%) were category II.
- Conversion to general anaesthesia due to inadequate block height was required in 7 cases (12.2%). High spinal block occurred in 5 cases (8.77%).
- Dose reduction by 16% (10mg of heavy bupivacaine with 300 micrograms of diamorphine) was associated with favourable outcomes.
- 7 patients (12.2%) needed post operative oxygen requirenment and none required inotropes post operatively.
- Hypotension, defined as a mean arterial pressure <60 mmHg, was observed in 22.8% of patients and was managed with phenylephrine infusion and 3-mg ephedrine boluses.
- Reverse Trendelenburg positioning was employed in 5.26% of cases to prevent high spinal block




## Discussion

- In this study, a 16% reduction in intrathecal local anaesthetic dose was associated with favourable outcomes and a lower incidence of complications in 26.3% of cases.
- Selection of intrathecal local anaesthetic dose should be guided by the adequacy of the preceding epidural block.
- Limitations - retrospective design with relatively small sample size, and lack of standardisation in spinal dosing.

## Conclusion

- Early recognition of epidural failure and timely resiting of the catheter may help reduce the need for general anaesthesia and minimise the risk of high spinal block.
- Selection of intrathecal local anaesthetic dose should be guided by the adequacy of the preceding epidural block.
- In cases of patchy or ineffective epidural analgesia, the use of reduced intrathecal doses (approximately 10 mg) combined with reverse Trendelenburg positioning is recommended.

## References

1. Campbell DC, Tran T. Conversion of epidural labour analgesia to epidural anesthesia for intrapartum Cesarean delivery. Can J Anaesth. 2009 Jan;56(1):19-26. doi: 10.1007/s12630-008-9004-7. Epub 2008 Dec 18. PMID: 19247774.
2. 2.Hermanides J, Hollmann MW, Stevens MF, Lirk P. Failed epidural: causes and management. British journal of anaesthesia. 2012 Aug 1;109(2):144-54.