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Combined regional and neuraxial anesthesia for burn surgery in a pregnant patient: a case report

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Introduction

- Strong preference for **regional** and **neuraxial** anesthetic techniques in the **pregnant population** where appropriate
- **Multifactorial risk-benefit analysis** with consideration of patient characteristics, patient risk factors, and type of surgery
- Goal to **optimize outcomes** for both patient and fetus

Case Report

- 33-year-old 20-week pregnant female (G6P3) presenting with full thickness burns of the right forearm, right thigh, and back of right hand (TBSA 2% burn)
- **Pre-op:** single shot right supraclavicular block using 20ml of 0.5% bupivacaine and 5ml of 2% lidocaine
- **Intra-op: single shot spinal using** 1.3ml bupivacaine 0.75%-dextrose 8.25% at the L3-4 interspace; sedation with 50mcg/kg/min of propofol
- **Post op:** fetal heart tones were checked and satisfactory; pain by the graft site in RLE was well controlled with 5mg oxycodone

Main Takeaways

- **Regional and neuraxial anesthesia are preferred** for non-obstetric surgery in pregnancy.
- **Combined peripheral nerve block + spinal anesthesia** can avoid general anesthesia while providing adequate surgical anesthesia.
- Particularly useful when **airway or respiratory risk is increased** (e.g., recent URI, pregnancy).
- **Maintains spontaneous ventilation** and limits fetal anesthetic exposure.
- **Multimodal regional techniques** can optimize maternal and fetal outcomes.

Discussion

- Regional and neuraxial anesthesia are preferred due to maintenance of maternal respiratory drive and spontaneous ventilation, minimized fetal exposure to anesthetic agents, and improved postoperative analgesia with reduced opioid use¹
- Some regional techniques may limit potential neurodevelopmental risks
- Our case demonstrates the safe combination of regional and neuraxial anesthesia to optimize both maternal and fetal outcomes while minimizing risk

Resources

1.Upadya M, Saneesh PJ. Anaesthesia for non-obstetric surgery during pregnancy. Indian J Anaesth. 2016 Apr;60(4):234-41. doi: 10.4103/0019-5049.179445. PMID: 27141105; PMCID: PMC4840802.
2.B.D. Brakke, H.P. Sviggum. Anaesthesia for non-obstetric surgery during pregnancy. BJA Education, Volume 23, Issue 3, 2023. Pages 78-83. ISSN 2058-5349. <https://doi.org/10.1016/j.bjae.2022.12.001>.