

Ultrasound Guided Quadratus Lumborum Block for an Opioid-Free CDH Repair

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Introduction

Congenital diaphragmatic hernia (CDH) is a potentially fatal defect allowing viscera to herniate into the chest that occurs in 1-4 out of 10,000 births. Typical treatment involves intubation, followed by surgical correction.

The quadratus lumborum (QL) block is a versatile block used for abdominal surgeries. We report a new application for the QL block for CDH repair that has not been previously reported in the literature.

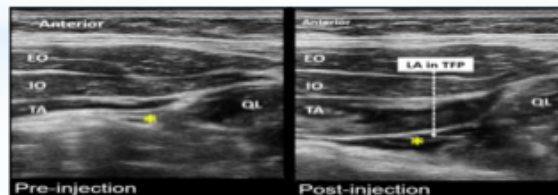
Case Presentation

- 3 day old female ex-36 weeker, with past medical history of CDH diagnosed before birth. The pregnancy was otherwise uncomplicated.
- After delivery, the patient was intubated by the NICU team and maintained on high frequency oscillatory ventilation. Echocardiogram was performed and unremarkable.
- Weight of 1.85 kg.
- Surgery proceeded on 3rd day of life.

Management

Surgical course:

- Standard ASA monitors were attached. Induction proceeded with in-situ ETT and radial arterial line was placed.
- Abdomen was prepped in supine position with chlorhexidine gluconate solution. Left quadratus lumborum block was placed under ultrasound guidance prior to surgical incision.
- 25 G PrecisionGlide needle was used for injection of 0.9 mL of 0.5% bupivacaine. No complications were appreciated.
- Surgery proceeded via left subcostal incision. A typical Bochdalek hernia defect was identified. Viscera was reduced and the defect was closed primarily.
- Fluids consisted of NS 0.9% 50 mL/kg and 10 mL/kg of 5% Albumin.
- IV acetaminophen was given at the conclusion of surgery.
- The patient was extubated without event to nasal CPAP and transported to the NICU.
- Post operatively, the patient was weaned to room air in the NICU. The remaining hospital course was uncomplicated and she was discharged home after 9 days.



<http://www.usra.ca/regional-anesthesia/specific-blocks/trunk/tfbblock.php>

Discussion

- The diagnosis of CDH is still associated with significant mortality of up to 23% in low volume centers.
- Mortality has been shown to correlate with the patient's respiratory status in the first 24 hrs immediately after surgery.
- A regional anesthesia based method for providing analgesia during CDH effectively obviated the need for intraoperative opioids and resulted in early extubation in the OR.
- We believe that this method of providing multimodal analgesia is a safe and effective option for CDH repair.
- We hope to continue using this technique for providing analgesia for infants without contraindications to regional anesthesia and build a database of patient outcomes as basis for future research.

References

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