

# [NM-136] Continuous Peripheral Nerve Blockade: A Superior Option for the Primary Anesthetic and Pain Management in Patients with Epidermolysis Bullosa Undergoing Limb Surgery

Walters S, Chen S

Children's Hospital Los Angeles , Los Angeles , California, USA

---

**Introduction:** Recessive dystrophic epidermolysis bullosa (RDEB) is a rare genetic condition described by widespread dystrophic scarring and blister formation from cutaneous to mucous membrane. It presents unique challenges perioperatively. Anesthetic considerations are reducing new bullae formation, potential difficult airway, and optimal pain control (1). A creative anesthetic plan is required to achieve anesthesia and analgesia for patient safety and satisfaction.

**Background:** Chronic pain is common in RDEB patients due blister formation and wound care. Continuous regional blockade (CRB) is rarely used in RDEB patients due to procedural technical difficulties, catheter dislodgement, and possible new bullae formation. Few case reports describe the use of regional anesthesia (RA) in RDEB patients. We present a case that emphasizes the role of RA, specifically CRB, to provide a superior option in lieu of general anesthesia in a RDEB patient undergoing limb surgery. With CRB, we avoided airway instrumentation, better post-operative pain control, and improved patient satisfaction (2,3).

**Method:** 16-year-old 36kg male with RDEB presented for left hand reconstruction for complex syndactyly. He received oral midazolam 15mg for preoperative anxiety followed by inhaled oxygen and nitrous oxide for peripheral intravenous line placement. Standard ASA monitors were used. Deep sedation was achieved with propofol (200mcg/kg/min), ketamine (30mg), and fentanyl (10 mcg). Left infraclavicular area was gently patted with Ultradex surgical scrub, sterile water, and draped. Pajunk StimuLong NanoLine kit (Geisingen, Germany) with tuohy needle (18G x 50mm) was used for peripheral nerve catheter (PNC) insertion. With ultrasound, the brachial plexus was identified at 4cm and a PNC was secured at 8cm at the skin. PNC was secured with bacitracin ointment, 2x2 dressing and Mepitac tape. A total of 40mL Ropivacaine 0.2% was given. Patient required no intravenous narcotics and post-operative pain was controlled by left infraclavicular PNC with OnQ CBloc Pump containing Ropivacaine 0.15% @ 8ml per hour. On Wong-Baker FACES pain scale, self-reported pain ranged from 0 to 2. First dose oral narcotic was 24 hours after surgery. Patient was discharged on post-operative day 1 (POD1). The PNC was removed on POD2. There were no perioperative complications such as catheter dislodgement, new bullae formation, erythema, leaking or pain.

**Conclusion:** RDEB is a serious debilitating condition. Minor skin trauma creates bullous formation in the dermal and epidermal junction, ultimately leads to widespread scarring, deformity, and immobility. Pain management is an essential component in RDEB. RA, especially CRB, allows patent airway with minimal epidermal or dermal damage and provides prolonged pain control postoperatively.

## References:

- 1) Herod, J. et al. Epidermolysis bullosa in children: pathophysiology, anaesthesia, and pain management. *Paediatr Anaesth*, 2002. 12: 388-397.
  - 2) Diwan, R. et al. Continuous axillary block for upper limb surgery in a patient with epidermolysis bullosa simplex. *Paediatr Anaesth*, 2001. 11: 603-606.
  - 3) Lin Y. et al. Anesthesia and pain management for pediatric patients with dystrophic epidermolysis bullosa. *J Clin Anesth*, 2006. 18:268-271.
-