

ABSTRACT

Case is a 16-year-old male with first presentation of inflammatory bowel disease, with difficulty in pain management and increasing morphine patient-controlled analgesia, at which time the acute pain service was consulted. The patient underwent an uncomplicated bilateral quadratus lumborum block with liposomal bupivacaine. The patient's pain improved on the day of the procedure. He ceased the PCA and had significant daily morphine-equivalent requirements on post-procedure day 3 and was discharged on postop day 4. Scant literature exists on the use of regional anesthesia outside of the perioperative setting. The QL block was chosen over another truncal block (ie: transverse abdominal plane) based on institutional practices for intraabdominal surgeries and studies demonstrating superior analgesic effect. The QL block serves as the "workhorse" block for elective laparoscopic cases at this institution. Liposomal bupivacaine was used because of institutional best practices, which support the use of liposomal additive to increase block duration. This case highlights the utility of the QL specifically for medical management of a UC flare. However, these results can suggest that regional anesthesia can be considered for multimodal therapy in other non-operative pathologies.

ANATOMY AND BACKGROUND

Ulcerative colitis is a chronic relapsing and remitting inflammatory bowel disease characterized by abdominal pain and bloody diarrhea from mucosal inflammation of the rectum and colon. Acute flares are typically treated with biological therapy and pain management. While truncal nerve blocks are routinely used as part of a multi-modal perioperative analgesic strategy, their routine use for non-operative pain is not as prevalent.
Analgesia from truncal fascial plane blocks is achieved by local anesthetic spread between discrete fascial layers, a variety of which are utilized in the perioperative setting. Quadratus lumborum (QL) blocks target the thoracolumbar nerves adjacent to the quadratus lumborum muscle, providing anesthesia to the posterior abdominal wall. Transversus abdominis plane (TAP) blocks target the ilioinguinal and iliohypogastric nerves between the internal oblique and transversus abdominis fascia. Additional fascial plane blocks commonly utilized include the rectus sheath, serratus anterior, and erector spinae blocks.

DISCUSSION AND CONCLUSION

Abdominal pain is a key driver of ED presentation and subsequent hospital admission in patients suffering from IBD. In this case report we present a novel approach to address the pain of patients suffering from IBD flares with a block normally used for perioperative analgesia. Traditional procedural approaches to chronic visceral pain are sympathetic blocks focusing on GI cancer patients. These include celiac plexus, splanchnic, hypogastric, and ganglion impar blocks. These have the disadvantages of relying on fluoroscopic guidance and potentially severe complication profile.
The QL block, by contrast, can be administered using ultrasound guidance and at our institution is the preferred truncal block for elective laparoscopic surgeries. This is due to its demonstrated superior analgesic effect that includes visceral pain blockade. This instance is the first available literature of the QL block used for an IBD patient not undergoing surgery. The only other available report of a QL block successfully relieving transient nonoperative abdominal pain in a case of mesenteric vein thrombosis.
This technique could have implications for future management IBD patients with difficult to manage pain. It could be investigated further for use in other relapsing/remitting or acute severe non-operative visceral pain conditions.

LITERATURE REVIEW

PubMed and Cochrane search

Non-operative pain and regional anesthesia search terms*

Screen for English

Screen for relevance

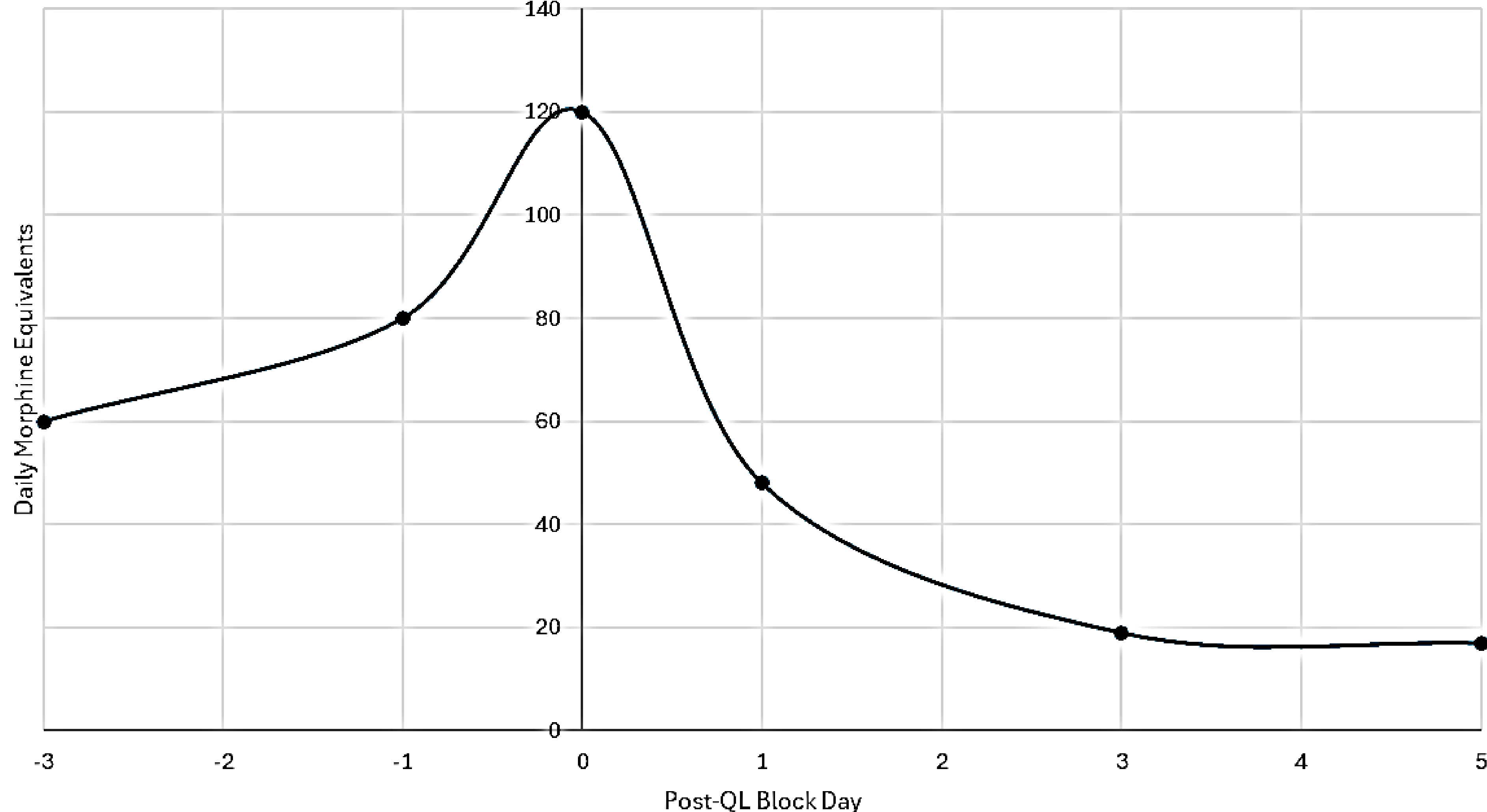
4 articles, 2 trials

- 3 / 4 articles and 1/2 trials report decreased opioid requirement post-block.
- 1 trial ongoing with decreased opioid requirement as a primary endpoint.

* Search terms: ("pain crisis" OR "pain episode" OR "inflammatory bowel syndrome" OR "IBD" OR "Crohn's Disease" OR "UC" OR "ulcerative colitis") AND ("nerve block" OR "Regional anesthesia" OR "brachial plexus anesthesia" OR "cervical plexus block" OR "ganglion block" OR "QL block" OR "Quadratus lumborum block" OR "intercostal nerve block" OR "lumbar plexus block" OR "paracervical block" OR "stellate ganglion block")

CASE PRESENTATION

Daily Morphine-equivalents



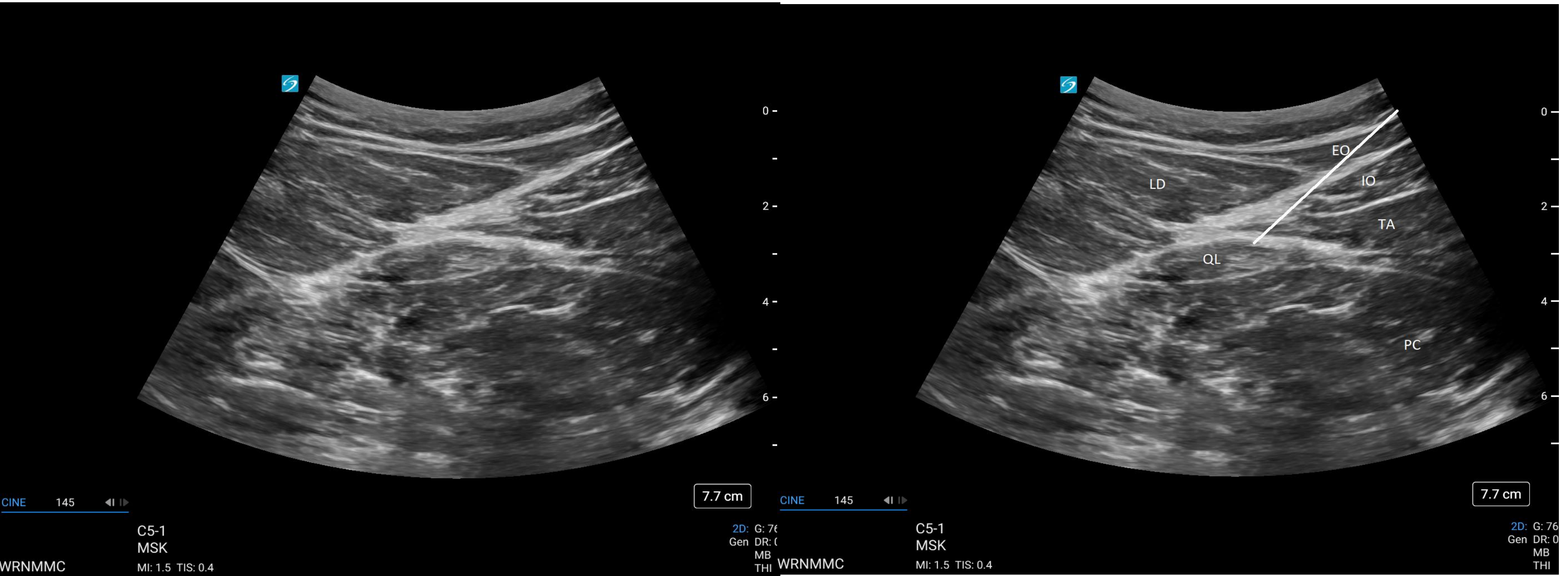
Post-QL Block Day	Daily Morphine Equivalents (mg)
-3	60
-1	80
0	120
1	48
3	18
5	18

Figure 1 (left): Daily Morphine-equivalents while consulted (QL block performed on Block Day 0)

	12:10	12:25	12:40	12:55	13:10	TOTALS
Midazolam (mg) (IV)			2			2 mg
Fentanyl (mcg) (IV)			50	(100)		150 mcg
Dexmedetomidine (mcg) (IV)			20	20		40 mcg
Bupivacaine 0.25% req (ml) (local bl...)				(40)		40 ml
Bupivacaine, liposomal (Exparel) (m...				(266)		266 mg

Figure 2: Intra-block medication administered, including anxiolytics, local and QL fascial injectates

Figure 3: Sono-anatomy of a QL block. QL – Quadratus lumborum. LD – Latissimus dorsi. EO – External oblique. IO – Internal oblique. TA – Transverse abdominis. PC – Peritoneal Cavity. White line – needle path



REFERENCES

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- Sinopoulou V, Gordon M, Dovey TM, Akobeng AK. Interventions for the management of abdominal pain in ulcerative colitis. *Cochrane Database Syst Rev*. 2021 Jul 22;7(7):CD013589. doi: 10.1002/14651858.CD013589.pub2. PMID: 34291816; PMCID: PMC8407332.

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