



Letter to the Editor

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The indirect benefits of a quadratus lumborum block in urgent laparotomy, hepatic resection, and open aortic surgery

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The analgesic indications of quadratus lumborum block (QLB) using various approaches have been described in different surgical procedures such as proctosigmoidectomy, above-knee amputation, abdominal hernia repair, breast reconstruction, colostomy closure, radical nephrectomy, lower extremity vascular surgery, laparotomy, colectomy, cholecystectomy, hysterectomy, caesarian section, pelvic bone fracture surgery, and hip surgery.

The excellent work of Aoyama et al. [1] comparing the analgesic benefits of QLB versus a posterior transverse abdominis plane block in laparoscopic gynecologic surgery must be recognized. However, lower pain scores at rest and at 48 h were observed in the QLB group; these results should have been highlighted, and not ignored, in the conclusions.

A recent systematic review by Jin et al. [2], focused on postoperative analgesic outcomes, showing the contribution of QLB in improving postoperative pain in renal surgery, cesarean section, and also in other abdominal, pelvic and hip surgeries despite the quality of evidence is low in these latter cases.

Nevertheless, there are still some topics and particular scenarios related to the use of QLB in some abdominal surgeries that need to be explored. QLB is important in special situations, depending on the type of patient, surgery, or clinical scenario. These advantages are not limited to strict perioperative analgesia.

Despite systemic infection not being a contraindication for neuraxial techniques, the American Society of Regional Anesthesia and Pain Medicine recommend that we should consider alternatives to neuraxial techniques for patients with a high-risk of infection to minimize the occurrence of serious complications [3].

In urgent laparotomy (in patients suffering from peritonitis), a single-shot QLB is certainly an option, as it provides significant somatic and visceral analgesia up to 24 h post-operatively [2], which may diminish the need of a continuous technique and subsequent risk of catheter colonization. In the current literature, single-shot QLB has been associated to a reduction in pain and opioid consumption up to 48 h after gynecologic/obstetric surgery [1]. Moreover, an eventual interfascial infection would be more manageable or treatable than a neuraxial infection/abscess which would be significantly different in terms of possible permanent complications.

Patients undergoing surgeries such as open aortic surgery or liver resection, in which significant blood loss is expected, also carry an increased risk of hematoma associated with the neuraxial catheter placement or withdrawal as consequence of acquired perioperative coagulopathy [4]. Despite deep peripheral blocks and neuraxial anesthesia having similar recommendations for patients taking drugs that affect hemostasis, the occurrence of hematoma associated with different degrees of perioperative coagulopathy due to blood loss and transfusion is not directly addressed in the “Regional Anesthesia in the

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Patient Receiving Antithrombotic or Thrombolytic Therapy” guidelines [3]. Obviously, a neuraxial hematoma would have the potential to be much more damaging (leading to permanent neurological symptoms) than an interfascial hematoma, which has more insidious symptoms and less need for an emergent decompressive intervention. In this case, the longer analgesic action of a single-shot technique is once again very important, as bilateral continuous QLB techniques are laborious techniques.

Hepatic resection performed under low central venous pressure to reduce blood loss and to improve surgical conditions will limit the safety of a combined anesthetic technique (general anesthesia plus thoracic epidural technique), because an epidural technique is hard to titrate and can produce hypotension. Hence, an epidural block is used mostly for postoperative analgesia, because if hypotension occurs, unwanted fluid administration in the resection phase may be needed, which may increase blood loss and complicate surgical conditions. In this type of surgery, a right-sided QLB block can contribute to hemodynamic management during general anesthesia by reducing the amounts of hypnotic drugs and opioids given, which diminishes the need for fluid and vasopressor administrations associated with greater anesthetic depth [5].

In the postoperative period of hepatic resection surgery, QLB analgesia will provide better thoracic expansion, which reduces the need for mechanical ventilation support, particularly in upper abdominal surgeries, and improves venous return and subsequent hemodynamic stability.

Complications related to a deep interfascial block should always be taken into consideration. We should not forget that QLB poses a risk of local systemic toxicity and carries a minimal risk of hypotension (described occasionally in bilateral techniques) due to the spread of local anesthetic to the paravertebral space [5].

To my knowledge, these aspects related to the QLB use in each particular scenario have not yet been comprehensively addressed. The longer duration of action of QLB has the potential to mini-

mize the need for epidural catheterization and its related complications. Hepatic resection surgery is an interesting model to study the intraoperative benefits of QLB that can surpass the advantages of epidural use.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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