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Transversus Abdominis Plane Block in Kidney Transplantation: A Comparative Evaluation of Early Analgesic Outcomes

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INTRODUCTION

Effective pain management following kidney transplantation is essential for optimizing early recovery while minimizing opioid exposure.

Although transversus abdominis plane (TAP) block has demonstrated benefits in several abdominal procedures, its role in routine perioperative analgesia for kidney transplant recipients remains uncertain.

This study evaluated the impact of TAP block on perioperative opioid requirements, early postoperative analgesia, and analgesia-related adverse effects.

METHODS

A retrospective comparative review was conducted in 100 consecutive kidney transplant recipients.

Patients were categorized according to receipt of an ultrasound-guided TAP block or standard analgesic care without regional anesthesia.

Demographic characteristics, baseline comorbidities, and perioperative clinical data were collected. Analgesic consumption during surgery and within the first 24 hours after transplantation, postoperative symptoms, and block-related complications were compared between groups using appropriate statistical analyses.

RESULTS

Patients who received a TAP block required significantly less intraoperative fentanyl than those managed without regional anesthesia (p = 0.04).

Primary Finding: Significant reduction in intraoperative fentanyl requirements (p = 0.04).

However, postoperative requirements for hydromorphone, oxycodone, and acetaminophen during the first 24 hours were comparable between the two groups.

Similarly, the incidence of nausea, vomiting, and pruritus did not differ significantly.

No complications attributable to TAP block placement were identified, supporting the safety of the technique in this patient population.

Outcome	TAP Block	Standard Care	p-value
Intraop Fentanyl	Reduced	Standard	**p = 0.04**
Postop Opioids	Equivalent	Equivalent	NS
Adverse Effects	Comparable	Comparable	NS
Complications	None (0%)	N/A	Safe

DISCUSSION

The findings suggest that incorporation of TAP block into kidney transplantation reduces intraoperative opioid exposure without altering immediate postoperative analgesic requirements or the frequency of opioid-related adverse effects.

These results indicate that the principal benefit of regional anesthesia may lie in optimizing intraoperative analgesia rather than extending postoperative pain control.

CONCLUSION

Ultrasound-guided TAP block is a safe adjunct to perioperative care in kidney transplantation and effectively decreases intraoperative opioid use.

Further prospective studies with longer follow-up are warranted to determine its influence on postoperative recovery, patient-reported pain outcomes, and opioid consumption beyond the first postoperative day.

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