Perioperative Ketamine Can Worsen Postoperative Pain Control for Whipple Procedures

Joseph Lim DO, Manal Fasih BA, Juan Malo MD, John Ok MD, Joseph Buell MD, Houssam Osman MD, Dhiresh Rohan Jeyarajah MD
Department of Surgery, Methodist Richardson Medical Center, Methodist Health System

Introduction

- Enhanced Recovery After Surgery (ERAS) leads to less opioid usage, quicker recovery, and smaller financial burden
- Many medications can be utilized in the ERAS protocol, with one being Ketamine.
- The impact of perioperative Ketamine in Whipple patients remains a topic of discussion due to the limited data.

Methods

- Patients who underwent open Whipple procedure from 2019 to 2021 at a high-volume non-university tertiary care center were included.
- Per protocol, acetaminophen and regional anesthesia were routinely utilized; however, ketamine was variably utilized at the anesthesiologists' discretion.

Results

	Ketamine	No-Ketamine	p-value
Median OR MME (IQR)	30 (24)	42 (20)	p = 0.005
PACU Pain Control (0-10)	3.58 (4.29)	2.83 (2.85)	p = 0.248
PACU MME	82 (92.5)	60 (88)	p = 0.086
POD1 Pain Score (0-10)	3.29 (2.34)	3.09 (2.54)	p = 0.043
POD1 MME	103 (140.5)	70 (97.2)	p = 0.046
POD2 Pain Score	3.33 (2.40)	2.97 (2.95)	p = 0.011
POD2 MME	47.5 (129.13)	28.5 (69)	p = 0.016
POD3 Pain Score	3.15 (2.06)	3 (2.06)	p = 0.051
POD3 MME	22.5 (75)	15 (33.3)	p = 0.423

Results

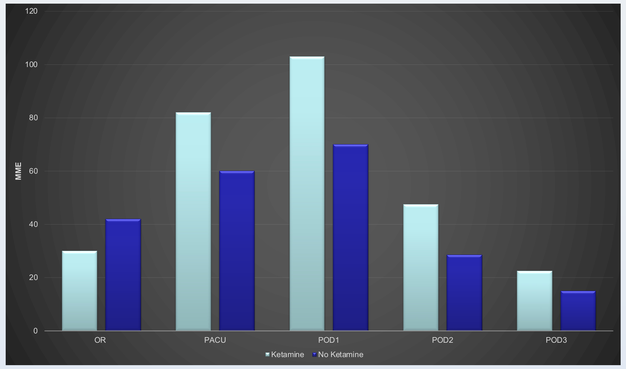


Table 1. Median opioid use (MME) between ketamine patients versus non ketamine patients at various stages of hospitalization.

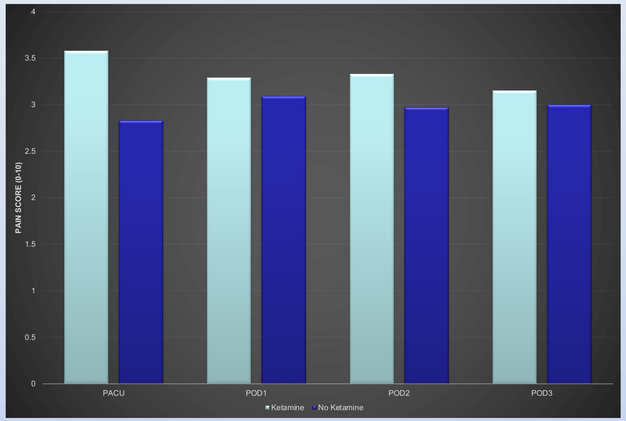


Table 2. Median pain score (0-10) between ketamine patients versus non ketamine patients at various stages of hospitalization.

Discussion

- 57 patients received perioperative ketamine, while 83 patients did not.
- Ketamine doses ranged from 25 to 100mg per anesthesiologists' discretion, with median dose being 50mg.
- Intraoperatively, Ketamine group received less intraoperative opioid (MME) compared to their counterpart (35.1 versus 42.3, p = 0.005).
- However, patients who did receive ketamine had higher pain scores on both postoperative days 1 and 2. Ketamine recipients also had higher total opioid usage on post operative days 1 and 2.
- No statistical difference in hospital length of stay between the 2 groups (12 days versus 10.6 days, p = 0.42).

Conclusion

- While perioperative ketamine can decrease intraoperative opioid usage, patients who received ketamine had poorer pain control post operatively days 1 and 2 as a potential sequela of prior intraoperative undertreatment of pain.
- Utilization of Ketamine should be further investigated for HPB ERAS protocol

References

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