

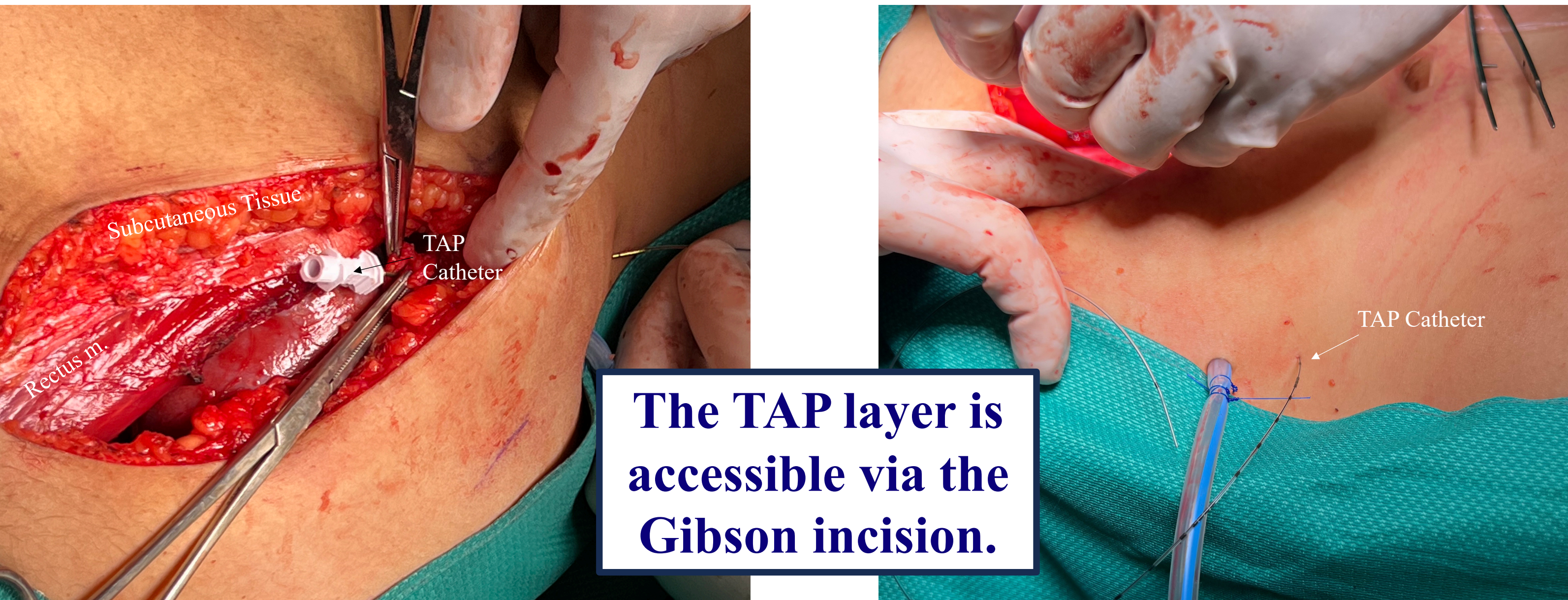
TRANSVERSUS ABDOMINIS PLANE BLOCK CATHETERS FOLLOWING RENAL TRANSPLANTATION: A RETROSPECTIVE COHORT STUDY

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Background

- The mainstay of analgesia in kidney transplantation is opioids via Patient-Controlled Analgesia (PCA) pumps.^{1,2,5}
- The use of catheters to infuse local anesthetic within the Transversus abdominis plane (TAP) has been shown to enhance pain control and reduce opioid consumption.³
- Evidence on TAP catheter use in renal transplantation is limited.⁴



Methods

Study Design

- Retrospective cohort study of adult patients undergoing kidney transplantation between January 2020 to June 2023 at the University of Alberta Hospital
- Historical cohort of patients identified (time-based convenience sampling) acted as comparator group.

Outcomes

- Primary Outcome:** Cumulative opioid consumption (oral morphine equivalents, mg) at 48 hours postoperatively.
- Secondary outcomes:** Postoperative analgesic adjunct usage, PCA use, analgesic-related adverse events.

Analysis

- Descriptive and comparative statistics as appropriate.

Results

There was no significant difference in the opioid consumption at 48 hours between TAP and no-TAP groups (170 mg vs. 163 mg; p=0.86).

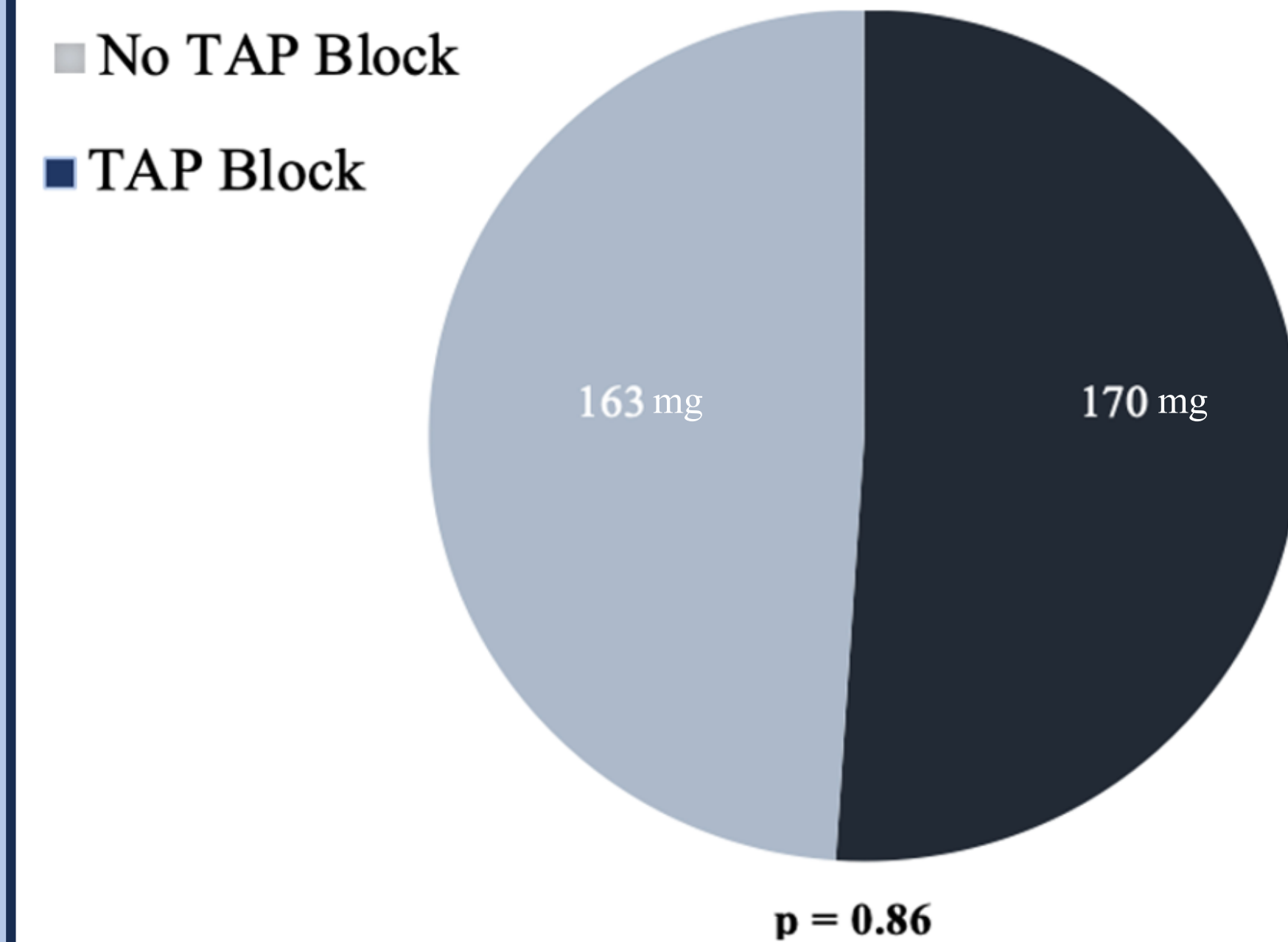
Patient Demographics

Demographic	TAP Block (n=174)	No TAP Block (n=170)
Sex - Male/Female	106 (60.9%) / 68 (30.1%)	114 (65.5%) / 56 (32.9%)
Age (years)		
18-40	38 (21.8%)	32 (18.8%)
41-60	74 (42.5%)	83 (48.8%)
60-80	60 (34.5%)	55 (32.4%)
>80	2 (1.2%)	0 (0%)
Weight (kg) - Range (Mean)	41.8 - 148.4 (78.8)	38.4 - 125.9 (82.1)
Height (m) - Range (Mean)	1.39 - 1.96 (1.7)	1.46 - 1.96 (1.71)
Opioid Use 7 Days Prior to Transplant - Yes/No	11 (6.3%) / 163 (93.7%)	15 (8.8%) / 155 (91.2%)

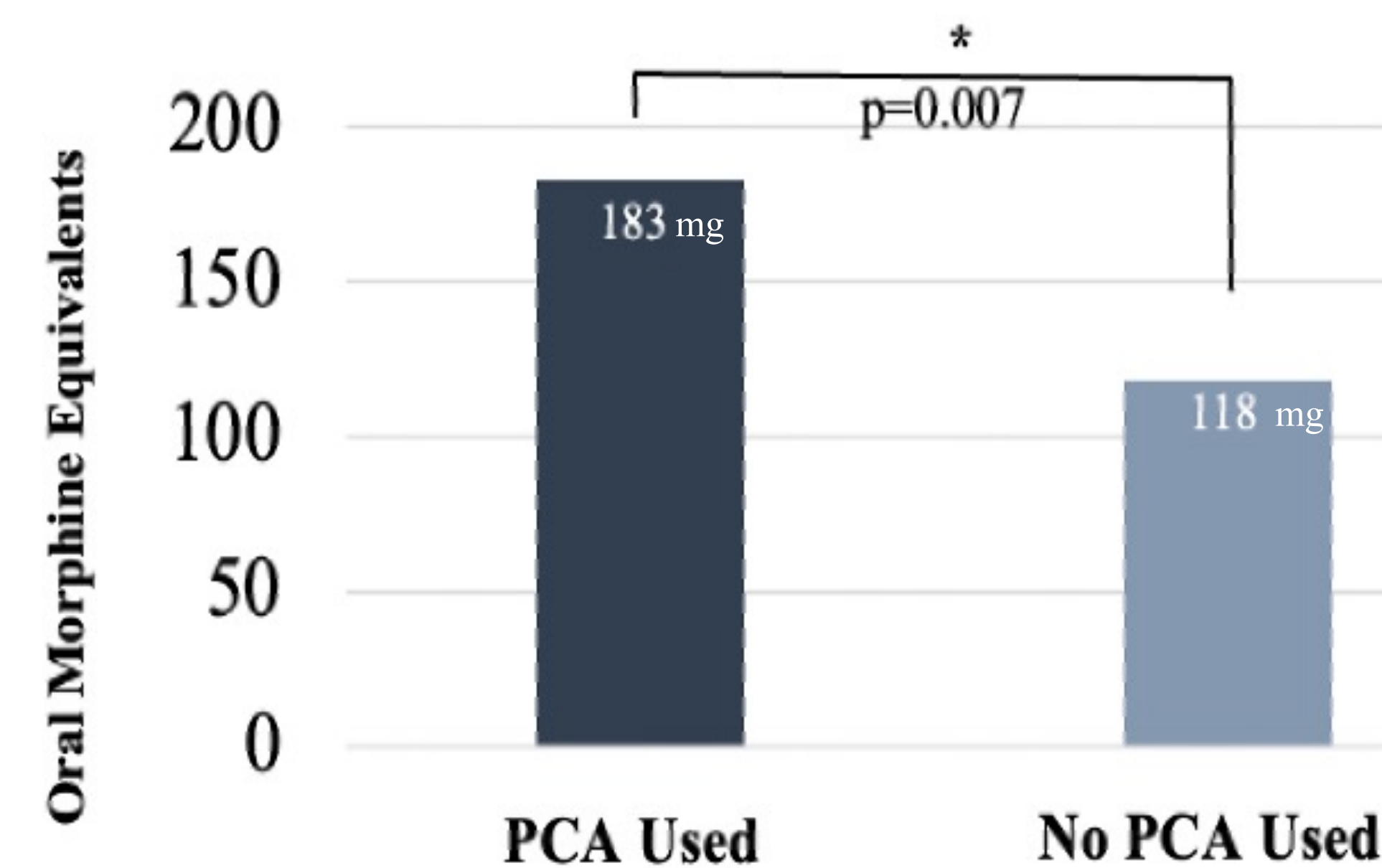
Adverse Patient Outcomes

	TAP Block	No TAP Block
Bradycardia	1.10%	0.60%
O2 Use after POD2	18.40%	21.80%
Respiratory Rate <10/min	7.50%	5.30%
Delayed Graft Function	10.90%	15.30%
Post-op Reintubation	2.30%	4.10%
Cardiac Dysrhythmia	2.90%	2.90%
Grade 4 and 5 Complication	10.30%	8.30%

Opioid Consumption at 48 Hours (in Oral Morphine Equivalents)



Opioid Consumption at 48 Hours with PCA Use



- PCA use was associated with increased opioid consumption (183 mg vs. 118 mg; p=0.007).**
- More patients in the No TAP group received a PCA than the TAP group. (95.8% vs. 60.3%; p<0.001). After controlling for the influence of PCA (ANCOVA), there was no difference in opioid consumption between the two groups (169 mg vs. 141 mg; TAP vs. no TAP; p=0.272).**

Conclusions

- No significant difference found in opioid consumption between transplant recipients who received a TAP catheter vs. those who did not at 48 hours.
- PCA use was associated with an increase in opioid consumption. After controlling for PCA status, there was no influence of PCA use on opioid consumption between TAP and no-TAP groups.
- TAP catheter use appears safe in the renal transplant population.
- Role of TAP catheter remains unclear given heterogeneity of retrospective data.
- A randomized controlled trial is required to better determine the benefit, or lack thereof, for TAP catheter use in kidney transplantation.
- Patient reported outcomes are critical to define any possible benefit for TAP catheter use.

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References

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