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Title

Sugammadex vs Neostigmine: Possible Decrease in PACU Stay

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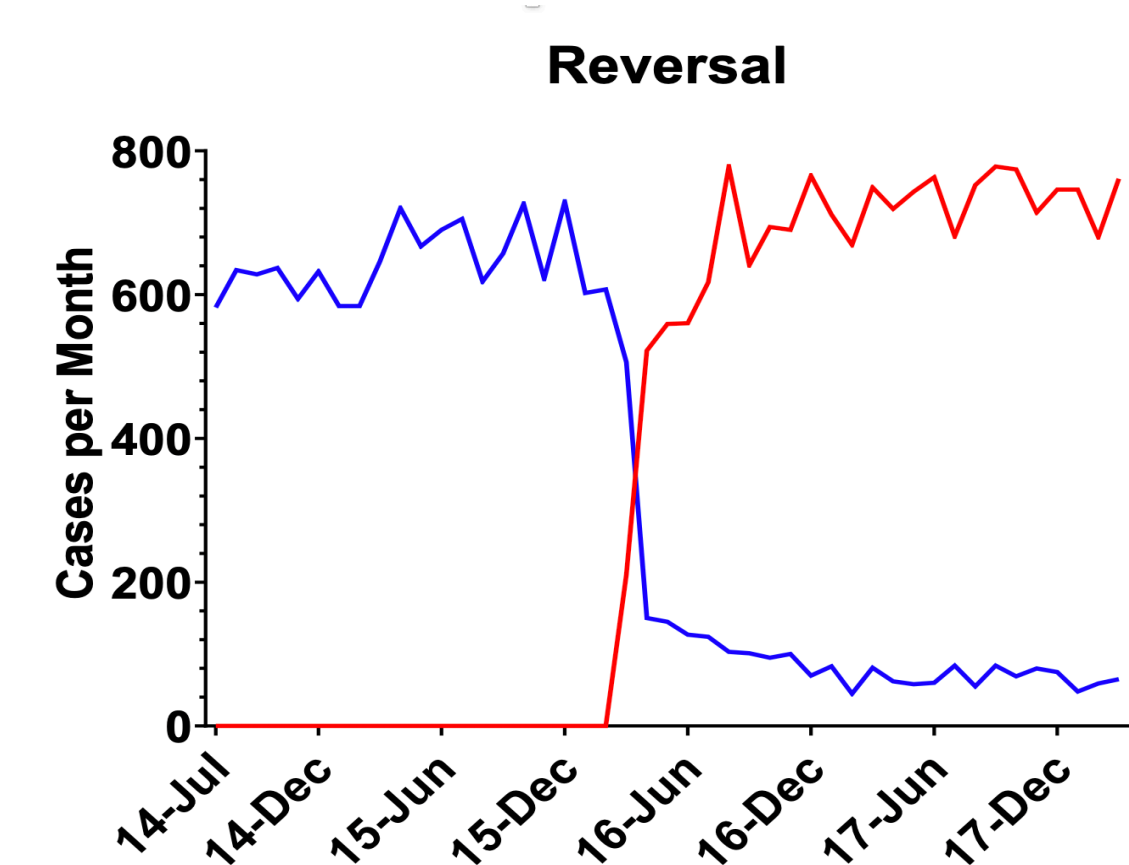
Data Availability

The data associated with this publication are not available for this reason: N/A

**Sugammadex vs Neostigmine:
Possible Decrease in PACU
Stay
Presenter: Kevin Nguyen**

Background

- Neostigmine – longstanding only choice for reversal of neuromuscular blockade
- Incomplete reversal and residual neuromuscular blockade: atelectasis, pulmonary edema, desaturations, postoperative pulmonary complications, and longer hospital stay
- March 2016: sugammadex introduced at UCDCM
- Sugammadex can rapidly reverse even deep neuromuscular blockade and is associated with fewer adverse events: decreased surgery duration, PACU stay, and overall hospital stay²
- This study aims to compare patient flow -neostigmine versus sugammadex end of surgery to PACU total PACU stay



Methods

- Retrospective study of anesthetic events in UCDCM Pavilion OR and Same Day Surgery Center (SDSC) from July 2014 - March 2018
- Arthroscopies, cholecystectomies, and gastric bypasses (n = 3415)
- neostigmine vs sugammadex reversal, compared using a grouped t-test analysis

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Sugammadex did not change patient perioperative flow as measured by turn around time from ‘end of surgery’ to PACU, and total PACU stay, when compared to Neostigmine.

Results

	PACU Duration (min)			
	Mean	Standard Deviation	n	p-value
Neo: Arth PAV OR	312	317	690	0.02
Sug: Arth PAV OR	375	393	773	
Neo: Arth SDC	123	47	69	
Sug: Arth SDC	121	52	87	
Neo: Choly	248	280	786	
Sug: Choly	258	304	746	
Neo: Bypass	276	193	137	
Sug: Bypass	338	319	137	

	End of Surg to PACU (min)			
	Mean	StD	n	p-value
Neo: Arth PAV OR	14	8.4	693	
Sug: Arth PAV OR	13	8.3	786	
Neo: Arth SDC	7.9	4.2	69	
Sug: Arth SDC	7.2	4	87	
Neo: Choly	13	9.2	744	
Sug: Choly	12	7.11	746	
Neo: Bypass	14	8	137	
Sug: Bypass	13	7.3	140	

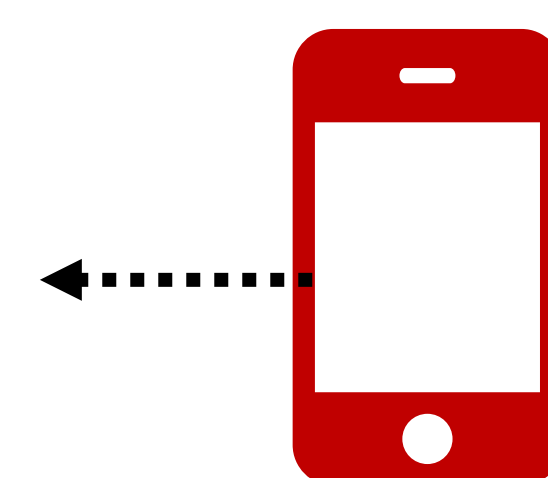
- Overall: no significant difference in PACU stay or ‘end of surgery’ to PACU time with sugammadex versus neostigmine
- Statistically significant 63-minute decrease in PACU stay in patients with arthroscopies
- This is likely a clinically significant difference though possibly due to a wide standard deviation which merits further investigation

Discussion

- Our findings - that neostigmine and sugammadex have similar postoperative outcomes - contrasts current literature¹
- Data does not suggest relaxant reversals are the rate limiting step in OR departure. Similarly, in the PACU, secondary impacts of relaxants, like hypoxemia, may not be significant or rate limiting
- Other reasons include confounding factors -- stratify by dose, weight, age/sex, and PACU readiness for discharge vs actual PACU duration. Or, these times are not limited by neuromuscular blockade

References

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