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Title

EVALUATION OF REINTUBATION RATES FOLLOWING INTRODUCTION OF NEW REVERSAL AGENT

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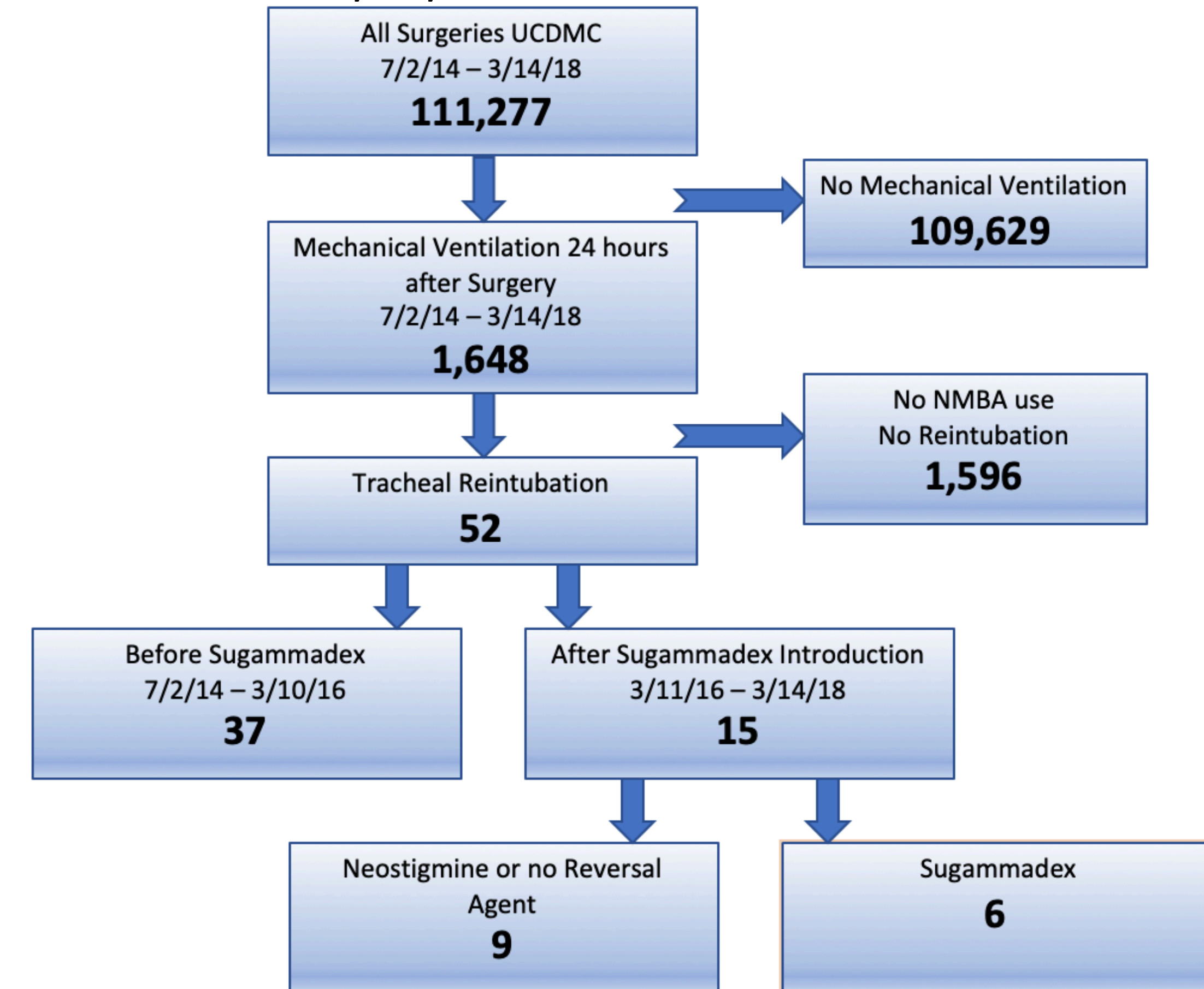
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EVALUATION OF REINTUBATION RATES FOLLOWING INTRODUCTION OF NEW REVERSAL AGENT

Presenter: Colton Soudan

Background

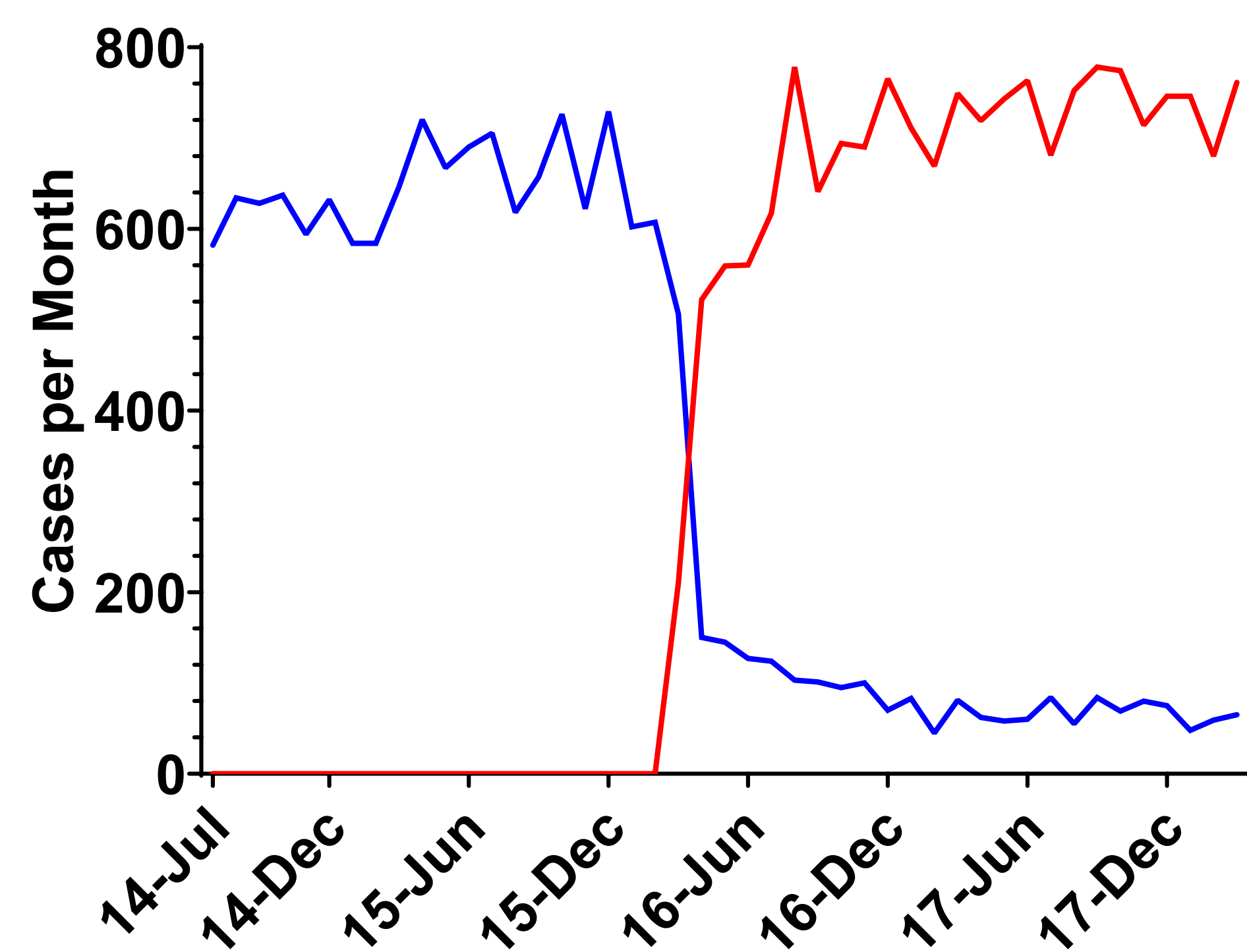
- Postoperative residual neuromuscular blockade is associated with post-op complications
- Current blockade reversal agents are Sugammadex and Neostigmine
- Sugammadex may decrease postoperative residual neuromuscular blockade
- Sugammadex was introduced to UC Davis Academic Center on 3/11/16



Methods

- Used EMR and chart review to find patients requiring post-operative tracheal reintubation
- Observed previously associated patient characteristics, as well as new factors, as shown in table 1 and 2

Reversal

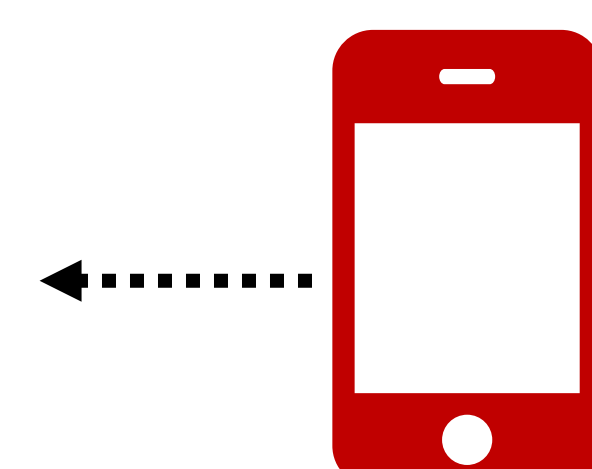


Results

- 52 patients required tracheal reintubation; 37 before and 15 after Sugammadex
- Significant decrease in the frequency of tracheal reintubations comparing the post-Sugammadex introduction to the pre-Sugammadex introduction group
- Significant decrease in frequency of reintubation comparing Sugammadex to Neostigmine in Post-Sugammadex introduction group

Following the introduction of Sugammadex, tracheal reintubation frequency *decreased* at UC Davis Medical Center

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	Pre-Sugammadex Dates 7/2/14-3/10/16	Post Sugammadex 3/11/16-3/14/18
Total Non-depolarizing NMBA Use	23,533	30,742
Total Patients Requiring Tracheal Reintubation	37	15
Frequency of Tracheal Reintubations	0.16%*	0.05%*
Reintubations per Month	1.8	0.6
Patient Characteristics for Reintubations		
Average Age	56.9	51.9
Age Range	3 to 83	3 to 83
Age SD	18.84	22.13
Gender	21F; 16M	7F; 8M
Average BMI	27.81	28.51
Weight (kg)	73.94	77.17
Number of patients with HF	6	5
Number of Patients with COPD	9	6
Number of Patients with CKD	5	6
Number of patients with Intra-abdominal Surgery	18	5
ASA Classification 1 / 2 / 3 / 4	0 / 1 / 17 / 19	1 / 0 / 12 / 2
Time of Surgery: 0-2 / 2-4 / 4+ Hours	18 / 12 / 7	8 / 4 / 3
Average Neuromuscular Blockade Agent Rocuronium Equivalent mg/kg	1.2	1.2
Number of Patients reversed with Neostigmine	34	6
Number of Patients reversed with Sugammadex	0	6
Number of Patients not given Reversal Agent	3	3
Average Reversal Agent Neostigmine mg/kg	0.06	0.05
Average Reversal Agent Sugammadex mg/kg		2.9
Average time from Reversal Agent to Reintubation	1:12	1:21
Average time from last NMBA to RA	1:16	1:22
Number of Patients that desaturated <90% following initial tracheal intubation	5	5

*= P-value <.01 when compared

Discussion

- Further research can explore how different patient and surgical characteristics can impact the frequency of tracheal reintubations
- Further research can examine patient population not receiving neuromuscular blockade reversal agent
- Further research could look at 30 day outcomes following tracheal reintubation

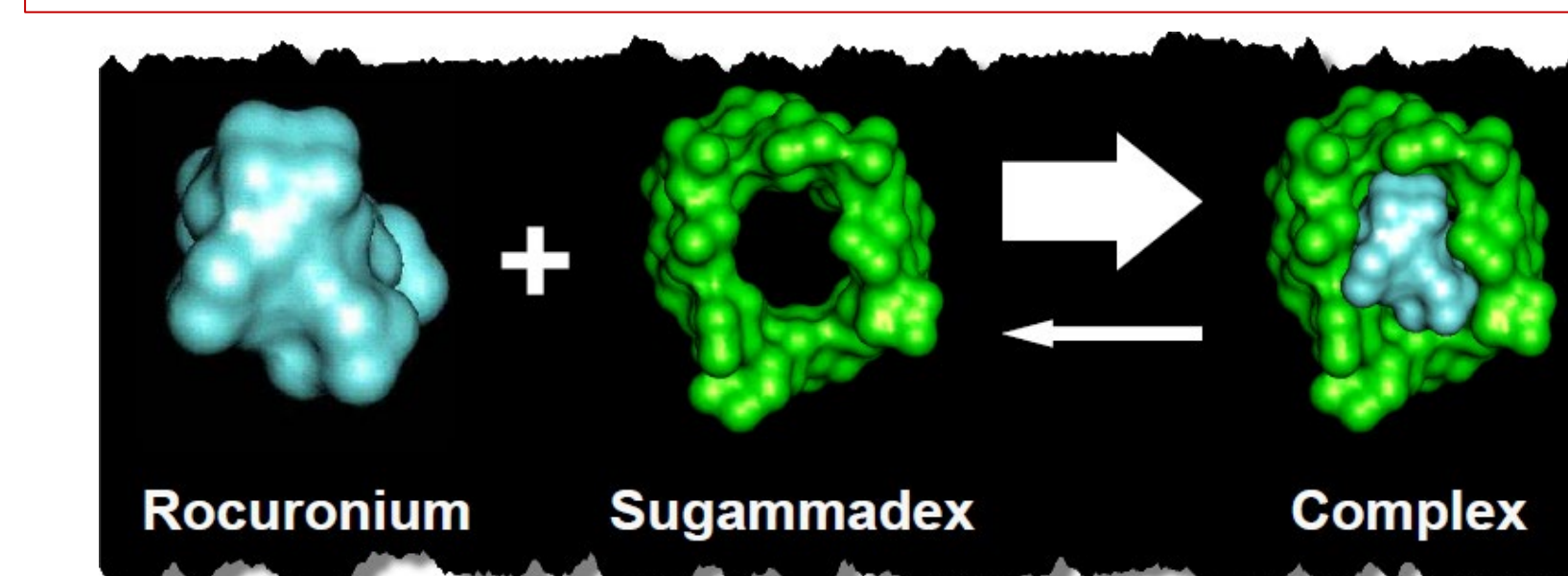
	Neostigmine Dates 3/11/16-3/14/18	Sugammadex 3/11/16-3/14/18
Total Patients Receiving RA Post-Sugammadex Introduction	4,455	19,379
Total Patients Requiring Tracheal Reintubation	6	6
Reintubations per use of RA Post-Sugammadex Introduction	0.13%*	0.03%*
Patient Characteristics for Reintubations		
Average Age	62.7	41.3
Age Range	44 to 74	3 to 83
Age SD	14.14	29.76
Gender	4F; 2M	2F; 4M
Average BMI	31.08	27.13
Weight (kg)	85.82	61.97
Number of Patients with HF	1	1
Number of Patients with COPD	2	2
Number of Patients with CKD	5	1
Number of patients with Intra-abdominal Surgery	4	1
ASA Classification 1 / 2 / 3 / 4	0 / 0 / 6 / 0	1 / 0 / 3 / 2
Time of Surgery: 0-2 / 2-4 / 4+ Hours	3 / 1 / 2	4 / 2 / 0
Average Neuromuscular Blockade Agent Rocuronium Equivalent mg/kg	1.4	1.2
Number of Patients reversed with Neostigmine	6	0
Number of Patients reversed with Sugammadex	0	6
Average Reversal Agent mg/kg	0.05	2.9
Average time from Reversal Agent to Reintubation	0:55	1:48
Average time from last NMBA to RA	1:26	1:18
Number of Patients that desaturated <90% following initial tracheal intubation	2	2

*=P-value <.00001 when compared

References

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