Switching of Antibiotics for the Treatment of MRSA Pneumonia in an Academic Hospital

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INTRODUCTION

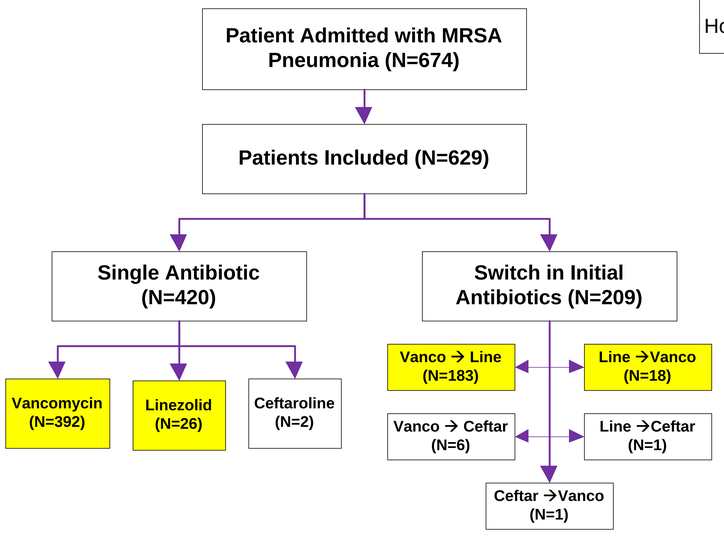
Timely administration of antibiotics for the treatment of methicillin-resistant *Staphylococcus aureus* (MRSA) pneumonia has been associated with improved outcomes. Studies have not examined the characteristics and outcomes of patients who required a switch in initial antibiotic therapy.

OBJECTIVES

Examine the characteristics and outcomes associated with a switch in antibiotic therapy for the treatment of appropriate empiric treatment of MRSA pneumonia.

METHODS

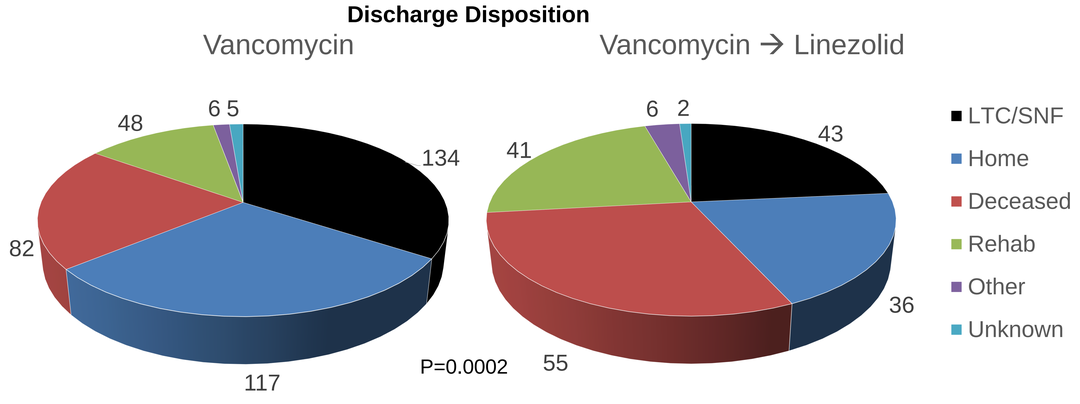
- An IRB approved retrospective data analysis of patients admitted with MRSA pneumonia in a large academic tertiary care hospital.
- **Inclusions criteria:** patients 18 years of age or older with respiratory cultures positive for MRSA and started on anti-MRSA antibiotics.
- **Exclusion criteria:** patients who did not receive antibiotics or received a total of 3 or more antibiotics.
- **Primary outcomes:** description of and the discharge disposition of patients treated with a single and those who required a switch anti-MRSA antibiotics.
- **Statistics:** Descriptive and inferential statistics were utilized where appropriate.

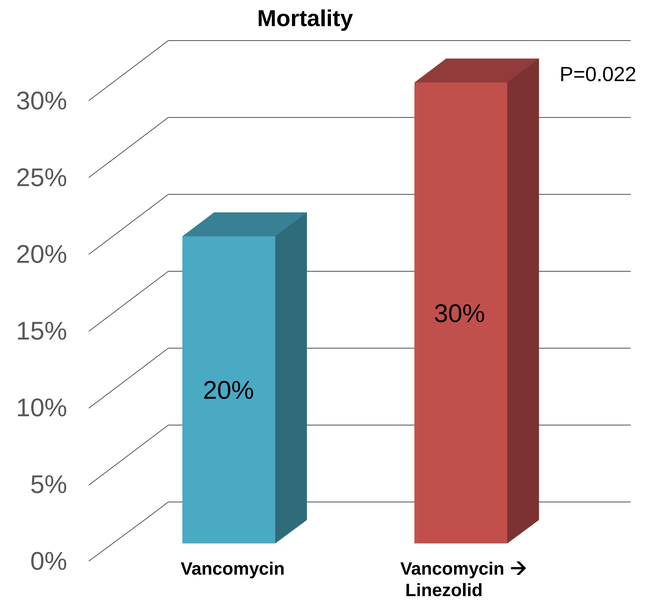


RESULTS

		Received Anti-MRSA Antibiotics (N=629)*						
Characteristic		Vancomycin (N=392)	Linezolid (N=26)	P-value	Vanco → Line (N=183)	P-value	Line → Vanco (N=18)	P-value
Age, y		60.6 (17)	55.5 (20)	0.21	57.7 (18)	0.06	57.3 (16)	0.74
Male, n		209	17	0.32	113	0.07	15	0.33
Race								
Caucasian		234	18	0.71	118	0.12	11	0.46
African-American		132	8		62		6	
Asian		3	0		1		0	
Other		5	0		0		0	
Unknown		18	0		2		1	
Time to Pneumonia, h		7.5 (10)	16.6 (36)	0.21	9.5 (13)	0.04	13.2 (15)	0.67
APACHE II Score		16.2 (6)	17.7 (4)	0.10	17.9 (6)	0.002	17.0 (4)	0.55
Charlson Comorbidity Index		4.6 (4)	4.1 (4)	0.58	3.7 (3)	0.004	5.1 (4)	0.46
Mechanical Ventilation, n		271	21	0.30	168	<0.0001	15	0.83
Vasopressor Use, n		133	10	0.80	83	0.01	5	0.68
Time to First Anti-MRSA Antibiotic, h		17.9 (41)	20.7 (27)	0.63	14.1 (34)	0.27	13.2 (19)	0.28
Time from 1st to 2nd Anti-MRSA Antibiotic, h		N/A	N/A		156.4 (237)		177.7 (224)	
Day of Pneumonia to Discharge, d		13.8 (12)	15.0 (15)	0.71	25.5 (22)	<0.0001	23.7 (19)	0.11
Hospital Length of Stay, d		21.2 (18)	30.3 (38)	0.25	35.1 (28)	<0.0001	36.9 (24)	0.49

Single Antibiotic (N=420) | Switch in Initial Antibiotics (N=209)





CONCLUSION

Our study suggests that patients who required a switch in initial anti-MRSA antibiotics were sicker and hence have worse outcomes then those who did not required a switch.

REFERENCES

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DISCLOSURE

Paul Juang: Nothing to disclose.
Marissa Bear: Nothing to disclose.