Treatment Duration of Antibiotics for Sacral Osteomyelitis After Skin Flap Procedure

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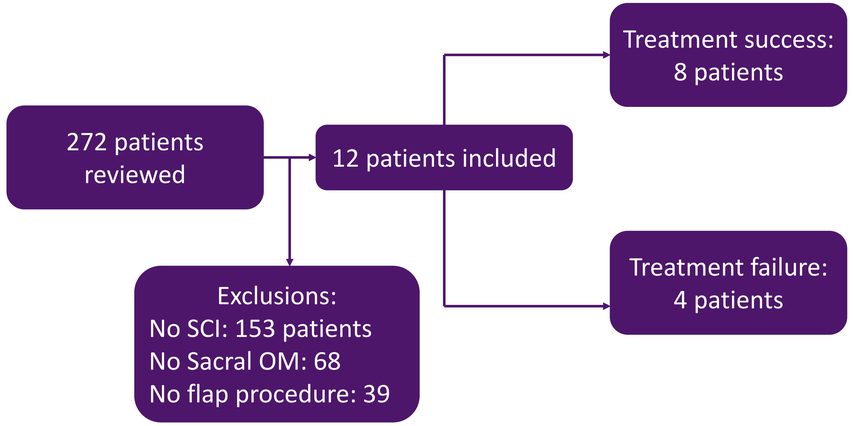
BACKGROUND

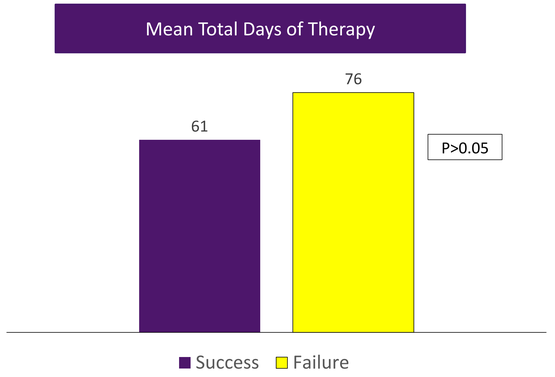
Patients with spinal cord injuries frequently develop sacral osteomyelitis. Optimal treatment often involves intravenous antibiotics and skin flap closure of the ulcer; however, best practices for the duration of antibiotic therapy pre- and post-procedure are unknown.

METHODS

This was a retrospective, cohort study of spinal cord injury patients at the VA St. Louis undergoing a skin flap procedure from 1 October 2014 to 31 March 2019. Patients aged 18 to 89 years with a documented spinal cord injury and receiving treatment for sacral osteomyelitis with antibiotics and skin flap placement were considered for inclusion. The primary outcome was to determine if there was a difference in antibiotic treatment duration, both pre-procedure and post-procedure, between those that failed therapy and those patients for which the treatment was successful. Treatment failure was defined as documentation of no resolution of sacral osteomyelitis after treatment, re-initiation of antibiotics for sacral osteomyelitis of the same area, documented flap break-down, or an unplanned flap-related procedure within 1 year of completion of antibiotic therapy.

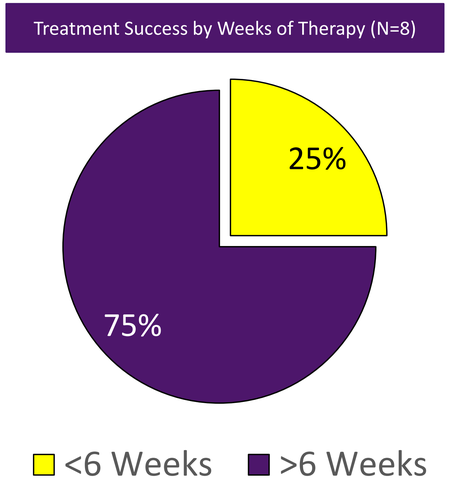
Treatment Failure Definition:
No resolution of sacral OM or recurrence of sacral OM or skin flap failure, or initiation of antibiotics for presumed OM of the area of the flap, documented flap breakdown, or unplanned flap-related procedures 1 year of the last day of initial antibiotic therapy.





Characteristics and Outcomes

	Treatment Success (N=8)	Treatment Failure (N=4)	*P*-value
Mean Age (years)	64±16.5	62±8.5	0.82
CrCl (mL/min)	116±49	133.5±38.1	0.56
Albumin (g/dL)	3.48±0.3	3.23±0.3	0.19
Baseline ESR (mm/hr)	38.8±20.7	57.75±50.7	0.36
Previous Flap Procedures	50% (4)	50% (2)	1.0
Previous Sacral OM Failure	100% (8)	75% (3)	0.33
PVD	0	25% (1)	0.33
Current Tobacco Use	0	25% (1)	0.33



RESULTS

Twelve patients were identified for inclusion. Baseline characteristics were similar between groups; 5/8 patients successfully treated received vancomycin, compared to 4/4 patients that failed therapy. Overall, 75% (8/12) had a successful treatment outcome at 12 months. In qualifying patients, average days of pre-procedure and post-procedure antibiotics were similar between patients who achieved success and those who failed (45.5 vs. 44.3 days pre-procedure, respectively (p>0.05) and 39 vs. 43 days post-procedure (p>0.05), respectively). When evaluated by weeks of therapy, no statistically significant differences were noted in treatment success rates between those treated for less than 6 weeks versus those treated for longer (66.6% [2/3] vs. 63.6% [6/9], p>0.05).

CONCLUSIONS

No difference in pre- or post-flap procedure antibiotic duration was observed in patients who failed therapy compared to those who were successfully treated.

Outcomes

	Treatment Success (N=8)	Treatment Failure (N=4)
Duration of Antibiotics Pre-flap (days)	23±24	33±22
Duration of Antibiotics Post-flap (days)	40±12	43±22