

CONCLUSION

Patients with diabetes and lower extremity burns have higher amputation rates, lengths of stay, and hospitalization costs if radiologically-confirmed osteomyelitis is present within three months of burn injury

SIGNIFICANCE

Diabetic burn patients with osteomyelitis have higher amputation rates and increased healthcare utilization. Systematic protocols to treat lower extremity burn wounds in diabetic patients may improve outcomes while reducing burdens of care

INTRODUCTION

- Diabetes causes delayed wound healing and increased wound complications
- Diabetic neuropathy can result in severe burn injury and delayed presentation
- Diabetic burn patients may therefore be more prone to developing osteomyelitis
- Osteomyelitis in diabetic burn patients is not well described in the literature

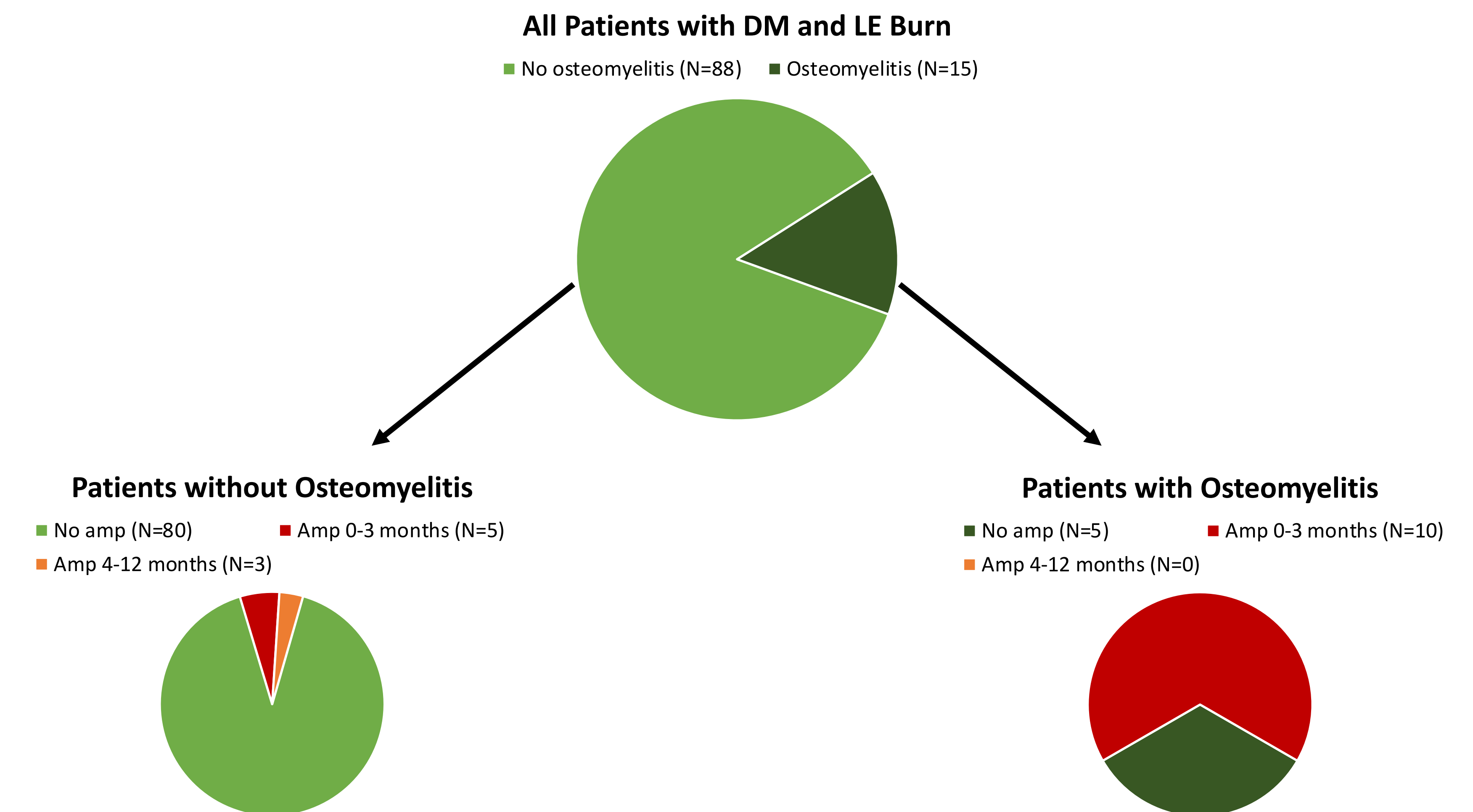
METHODS

- Retrospective, single center study from January 1, 2014 to December 31, 2018
- Included 103 adult patients with diabetes and isolated lower extremity burns
- Examined demographics, baseline characteristics, outcomes, and costs
- Statistical analyses with Students' t-test, Chi-squared, Fischer's exact test

RESULTS

- Patient demographics, burn characteristics and comorbidities were similar between groups
- 2/3 of patients with osteomyelitis had an amputation within 3 months of burn
- Osteomyelitis diagnosis doubled a diabetic patient's hospital stay
- Cost of care for patients with osteomyelitis was more than 2 times greater

	All patients (N=103)	No Osteomyelitis (N=88; 85.4%)	Osteomyelitis (N=15; 14.6%)	P-value
<i>Patient and burn characteristics</i>				
Average age (years)	54.4 (33-90)	54.8 (33-90)	52.3 (39-67)	P=0.2202
Male gender (%)	79.6% (N=82)	78.4% (N=69)	86.7% (N=13)	P=0.7301
Average TBSA (%)	1.8% (0.3-10%)	1.8% (0.4-10%)	1.8% (0.3-4%)	P=0.4682
Scald burn	53.4% (N=55)	53.4% (N=47)	53.3% (N=8)	P=1.0
Third degree burn	37.9% (N=39)	35.2% (N=31)	53.3% (N=8)	P=0.2498
Average HgA1C (%)	9.19% (4.9-16.2%)	9.26% (4.9-16.2%)	8.81% (5.6-12.8%)	P=0.2743
Insulin dependence	62.1% (N=64)	59.1% (N=52)	80.0% (N=12)	P=0.1562
<i>Prevalence of lower extremity amputation</i>				
Within 3 months	14.6% (N=15)	5.7% (N=5)	66.7% (N=10)	P<0.00001
Within 12 months	17.5% (N=18)	9.1% (N=8)	66.7% (N=10)	P<0.00001
<i>Healthcare utilization</i>				
Average length of stay (days)	13.7 (1-70)	12.1 (1-61)	22.7 days (3-70)	P=0.0042
Average hospitalization cost	\$72,883 (\$2,094-\$529,268)	\$62,237 (\$2,094-\$343,513)	\$135,345 (\$10,627-\$529,267)	P=0.0008



LESSONS LEARNED

- Small, single center, retrospective review
- Need for improved outcomes and decreased burdens of care in this population
- Lack of standardized diagnostic and treatment algorithms for complex patients
- Need for current and comprehensive literature in diabetic burn patients