



Trends in the outpatient management of lower extremity stasis dermatitis in the United States:

Use of topical therapy may vary by race and physician specialty

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INTRODUCTION

Chronic venous insufficiency (CVI) of the lower extremities is a common condition encountered in the ambulatory setting that may present as asymptomatic varicosities or as stasis dermatitis with ulceration and/or secondary infection. Prior studies assessing national practice data on stasis dermatitis management have not investigated treatment utilization of topical steroids and topical antibiotics. Research has shown racial disparities in CVI, with African-Americans often presenting with more advanced disease.¹⁻² Practice variations likely exist in the use of topical agents in the treatment of stasis dermatitis.

OBJECTIVES

- (1) Compare the proportion of stasis dermatitis visits managed by dermatology versus non-dermatology specialties
- (2) Evaluate demographic and health-care related factors associated with the use of topical steroid and topical antibiotic in the treatment of stasis dermatitis

METHODS

Fourteen years (2003 – 2016) of data from the National Ambulatory Medical Care Surveys (NAMCS) and National Hospital Ambulatory Medical Care Survey – Emergency Department (NHAMCS-ED) as well as nine years (2003 – 2011) of data from the NHAMCS-Outpatient Department (OPD) survey were aggregated for analysis. Visits were stratified and weighted to reflect their clustered sampling probability as described by National Center for Health Statistics (NHCS).³ After identifying visits with a diagnosis of stasis dermatitis (i.e., CVI with inflammation/ulcer), logistic regression for complex surveys was used to estimate the odds of stasis dermatitis as a function of multivariable patient characteristics, including race, age, sex, and insurance status, as well as physician specialty. The odds of prescribing topical steroid or topical antibiotic during a stasis dermatitis visit was estimated using the same multivariable patient and physician characteristics.

RESULTS

Controlling for sex, age, insurance status, race, and survey year, visits to dermatologists were 1.79 (95% CI: 1.04 – 3.07) times more likely to mention a diagnosis of stasis dermatitis than visits to other specialties (p = .03). Similarly, controlling for all other variables in the model, increasing age was associated with a diagnosis of stasis dermatitis. That is, for every 5-year increase in age, the odds of such diagnosis increased by approximately 18% (OR = 1.18, 95% CI: 1.13 – 1.24; p < .001) (Table 1).

Visits to general surgery had the highest proportion of stasis dermatitis diagnosis (0.64%), followed by dermatology (0.33%) and cardiovascular diseases (0.27%) (Table 2). Controlling for sex, age, insurance status, race, and survey year, dermatologists were 3.14 (95% CI: 1.33 – 7.43) times more likely to prescribe a topical steroid during a visit for stasis dermatitis than visits to other specialties (p = .01). Further, controlling for all other variables in the model, increasing survey year was associated with receiving a topical steroid during a visit mentioning a diagnosis of stasis dermatitis. That is, for each year increase in the survey period the odds of receiving a topical steroid during a visit mentioning a diagnosis of stasis dermatitis increased by approximately 20% (OR = 1.20, 95% CI: 1.10 – 1.31; p < .001) (Table 3).

RESULTS (cont.)

Table 1. Odds of stasis dermatitis as a function of patient/visit characteristics

	Unadjusted		Adjusted	
	Odds Ratio	p	Odds Ratio	p
Sex: Female vs Male	1.24 (0.99 – 1.54)	.055	1.25 (0.99 – 1.56)	.053
Age (per 5-year increase)	1.17 (1.14 – 1.20)	<.001	1.18 (1.13 – 1.24)	<.001
Insurance: Non-Private vs Private	1.22 (0.79 – 1.87)	.37	0.72 (0.40 – 1.27)	.25
Race: Non-White vs White	0.66 (0.41 – 1.05)	.08	0.73 (0.43 – 1.24)	.25
Specialty: Dermatology vs Non-Dermatology	2.43 (1.47 – 4.02)	.001	1.79 (1.04 – 3.07)	.03
Survey Year (per 1-year increase)	1.09 (0.97 – 1.23)	.17	1.08 (0.95 – 1.23)	.22

Note: For the multivariable estimates, there are 1,149,695 unweighted visits with 1,722 unweighted visits mentioning stasis dermatitis.

Table 2. Estimated number of stasis dermatitis visits by specialty

Specialty	Stasis Dermatitis Visits		Total Visits
	No	Yes	
Cardiovascular diseases	427,007,375 (21,987)	1,135,603 (33)	428,142,978 (22,020)
Dermatology	487,580,100 (22,669)	1,592,010 (84)	489,172,110 (22,753)
Emergency Medicine	1,786,281,441 (435,393)	305,399 (91)	1,786,586,840 (435,484)
General Surgery	256,133,646 (18,257)	1,653,050 (116)	257,786,695 (18,373)
Family Practice	2,946,136,092 (90,439)	2,520,304 (68)	2,948,656,395 (90,507)
Internal Medicine	1,920,130,561 (39,011)	1,764,731 (31)	1,921,895,292 (39,042)
OPD*	892,320,482 (299,153)	1,230,244 (1,085)	893,550,726 (300,238)
All Non-Dermatology	15,447,100,000 (1,191,196)	20,724,152 (1,715)	15,467,800,000 (1,192,911)
All Specialties	15,934,700,000 (1,213,865)	22,316,162 (1,799)	15,957,000,000 (1,215,664)

Note: Sample includes NAMCS survey years 2003 – 2016, ED survey years 2003 – 2016, and OPD survey years 2003 – 2011. Unweighted counts are in parentheses. * An OPD is an ambulatory hospital facility that includes clinics in general medicine, surgery, pediatrics, obstetrics and gynecology, substance abuse, and specialty clinics, such as psychiatry and neurology.⁴

Table 3. Odds of prescribing a topical steroid during a stasis dermatitis visit

	Unadjusted		Adjusted	
	Odds Ratio	p	Odds Ratio	p
Sex: Female vs Male	1.21 (0.73 – 2.02)	.47	1.32 (0.79 – 2.22)	.29
Age (per 5-year increase)	1.08 (0.99 – 1.18)	.09	0.99 (0.88 – 1.12)	.85
Insurance: Non-Private vs Private	1.41 (0.70 – 2.83)	.34	1.88 (0.71 – 4.97)	.20
Race: Non-White vs White	1.92 (0.78 – 4.75)	.16	1.53 (0.54 – 4.34)	.43
Specialty: Dermatology vs Non-Dermatology	2.72 (1.29 – 5.71)	.01	3.14 (1.33 – 7.43)	.01
Survey Year (per 1-year increase)	1.19 (1.08 – 1.32)	.001	1.20 (1.10 – 1.31)	<.001

Note: For the multivariable estimates, there are 1,722 unweighted visits with 180 unweighted visits mentioning a topical steroid.

RESULTS (cont.)

Controlling for sex, age, race, physician specialty, and survey year, patients without private insurance were 3.41 (95% CI: 1.11 – 10.51) times more likely to receive a topical antibiotic during a visit for stasis dermatitis than those with private insurance (p = .03). Further, controlling for all other variables in the model, non-White patients were 3.79 (95% CI: 1.18 – 12.18) times more likely to receive a topical antibiotic during a visit for stasis dermatitis than those identifying as White (p = .03). (Table 4).

Table 4. Odds of prescribing a topical antibiotic during a stasis dermatitis visit

	Unadjusted		Adjusted	
	Odds Ratio	p	Odds Ratio	p
Sex: Female vs Male	3.33 (0.93 – 12.03)	.067	4.04 (0.95 – 17.17)	.059
Age (per 5-year increase)	1.06 (0.98 – 1.16)	.15	0.97 (0.88 – 1.07)	.53
Insurance: Non-Private vs Private	1.84 (0.69 – 4.91)	.23	3.41 (1.11 – 10.51)	.03
Race: Non-White vs White	3.12 (0.99 – 9.79)	.052	3.79 (1.18 – 12.18)	.03
Specialty: Dermatology vs Non-Dermatology	1.24 (0.28 – 5.43)	.77	1.29 (0.31 – 5.35)	.73
Survey Year (per 1-year increase)	1.15 (0.94 – 1.40)	.18	1.18 (0.96 – 1.46)	.12

Note: For the multivariable estimates, there are 1,722 unweighted visits with 94 unweighted visits mentioning a topical antibiotic.

DISCUSSION/CONCLUSION

Recent studies have shown racial disparities in CVI with African Americans having a higher risk for advanced disease at presentation, slower ulcer healing times, and higher ulcer recurrence rates.¹⁻² The present study shows that dermatologists and general surgeons manage the highest of proportions of patients with stasis dermatitis in the ambulatory setting. Specialty training likely plays a role in the higher likelihood of topical steroid utilization by dermatologists when managing stasis dermatitis. Non-white patients and those without private insurance are three times more likely to receive a topical antibiotic during a stasis dermatitis visit. This may suggest a higher risk for development of secondarily infected lesions in these groups, which would lend additional support to existing literature showing racial disparities in chronic venous insufficiency.

LIMITATIONS

Although prevalence estimates may be calculated using census data, the number of visits does not reflect the true disease prevalence.

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