



Climate change and the risk of cellulitis

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As a follow-up to our previous column on the effects of climate change on the skin (Dermatology News, June 2016, p. 28), this month's column will focus on a study recently published in *Clinical Infectious Diseases* that explores warmer weather as a possible risk factor for cellulitis.¹ As the summer continues with sweltering

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weather, humidity, and the recent spate of hurricanes in North America, it's interesting to think about how the climate affects our patients and puts them at risk.

Analyzing hospital discharge data from a national inpatient health care database (the National Inpatient Sample) from

1998 to 2011 of more than 108 million hospital admissions (of which 1.3% were for cellulitis), the investigators found that the odds of a hospital admission for cellulitis increased with higher temperatures, with a dose-response pattern. Their analysis included diagnosis codes for cellulitis, abscess of the fingers and toes, and other cellulitis/abscess, and they used national climate data to estimate the average monthly temperature for different regions.

The odds of cellulitis admissions increased by roughly 3.55% for each 5° F increment in temperature. For example, the odds of being admitted to the hospital with cellulitis were 66.3% greater during a hot July with an average temperature above 90° F than during a cold February in some regions where the monthly temperature averaged below 40° F.

Several comorbidities associated with infection risk were also strongly associated with a higher odds of a cellulitis admission in this study: For example, for patients with diabetes, the odds were 146% higher, and for patients labeled as

obese, the odds were 122% higher.

Since bacteria and fungi – especially gram-positive organisms, such as staphylococcus and streptococcus, that most commonly cause skin and soft-tissue

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infections – often thrive in warm moist environments, it's not surprising that warmer weather is playing a role in an increased prevalence of infectious diseases during the warmer months.

Much attention has been given to global warming and climate change over the past several years. The results of this study demonstrate that, if temperatures consistently increase, the odds of cellulitis also may increase in regions exposed to warmer temperatures. ■



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Reference

1. *Clin Infect Dis*. 2017 Jul 31. doi: 10.1093/cid/cix487.



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