

COVID toes: Phenomenon or epiphenomenon?



To the Editor: As of June 15, there have been 206,606 cases and 22,103 deaths from COVID-19 in New York City.¹ The boroughs of the Bronx, Queens, and Brooklyn, as well as Harlem in upper Manhattan, have been epicenters of disease since its emergence due to socioeconomic factors that dictate their populations' baseline health and limit the ability to maintain infection control measures. Accordingly, these areas account for 80.8% and 81.2% of cases and deaths from COVID-19 in New York City, respectively.¹ As dermatologists representing the New York City Health+Hospitals municipal health care system throughout these heavily affected areas, we have observed that the mounting phenomenon of acral pernio, colloquially known as COVID toes, has been virtually absent in our patient populations despite noteworthy subjugation in less affected areas.² Illustratively, the 7 medical centers we represent have seen no cases of COVID toes. Although usual dermatologic services have been curtailed during this pandemic period, inpatient consults and ambulatory televisits have been used to maintain the provision of care; therefore, lack of access to dermatologic services cannot account for this finding. Between March 16 and June 5, 2020, there were a total of 5635 dermatology televisits completed among our 7 hospitals, ranging from 222 to 1250 televisits per hospital (Fig 1).

Importantly, an overwhelming majority of the serviced population is Hispanic and black (Table D). A notable racial imbalance among reported cases of COVID toes is glaringly apparent in a large, registry-based case series³ of 318 patients, of whom only 2.7% were Hispanic and 0.7% were black, thus, suggesting this phenomenon as a disease manifestation in white individuals. However, even if findings are resolute that this phenomenon is specific to a single ethnic group, there is still the question of whether its relation to disease is one of direct causality.

In the authors' opinion, it remains difficult to qualify COVID toes as a direct manifestation of the disease at this time, especially because the rate of COVID-19 antigen test positivity among affected patients is low. Although recent reports corroborate low rates of confirmed disease, they also explanatorily suggest that this manifestation occurs in otherwise mildly ill or asymptomatic individuals late in the disease course, which precludes antigen testing in a timely fashion.^{3,4} There are other factors that could explain our findings—perhaps our population has been less exposed to lay media reports of acral pernio and its possible association with COVID-19, or perhaps greater experience with severe COVID-19 in their communities made these patients less likely to be concerned about mild manifestations. Furthermore, our patients often seek care in the emergency department and fear of exposure to infection may have prevented them from seeking

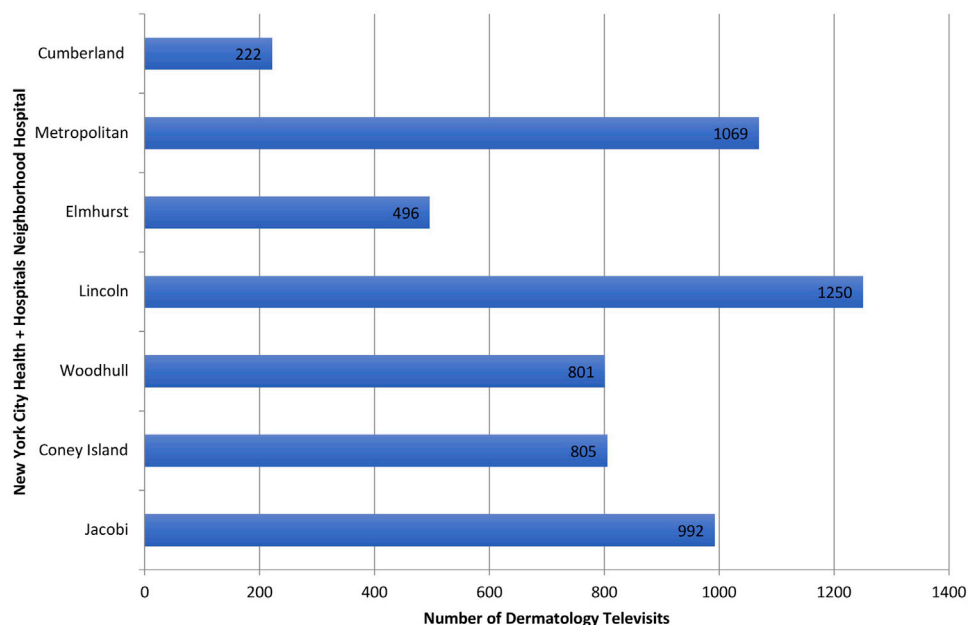


Fig 1. Total number of ambulatory dermatology televisits at New York City Health+Hospitals neighborhood hospitals from March 16, 2020, to June 5, 2020.

Table I. Racial/ethnic breakdown, %, of represented New York City Health+Hospitals neighborhood hospitals as reported in the NYC Health+Hospitals 2016 Community Health Needs Assessment⁵

NYC H+H Hospital	Hispanic	Non-Hispanic black	Non-Hispanic white	Asian/Pacific Islander	American Indian or Native	Multirace/other	Patient declined to answer
Jacobi	41.1	33.2	8.5	5.6	1.5	4.9	5.2
Coney Island	23.3	18.2	36.7	8.4	0.2	9.1	4.1
Woodhull	55.2	29.3	7.3	1.9	0.6	3.5	2.3
Lincoln	62.7	27.8	1.3	1.2	0.3	3.9	2.8
Elmhurst	52.1	6.5	9.7	14.9	1.0	10.7	5.1
Metropolitan	51.8	21.1	6.9	5.1	0.1	5.1	3.3
Cumberland	15.6	20.2	49.6	8.9	0.1	4.0	1.6

evaluation. Nevertheless, based on presently available data, it may be most appropriate to circumscribe this phenomenon of COVID toes as, rather, an epiphenomenon—an accompanying symptom without causal relation. Continued reporting of COVID toes cases, as well as antigen and antibody testing of these individuals and ongoing pursuit of plausible alternative explanations, remains crucial so that when a comprehensive, retrospective study becomes achievable, the deductions can accurately portray the pathophysiology of disease and its manifestations.

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