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Case Report

COVID Toes: First Reported Case from Kuwait

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Abstract

Since the beginning of the Covid-19 pandemic, many skin manifestations were reported. This case report presents diagnoses of COVID toes based on patient's history and the physician's clinical judgment.

Keywords: *COVID Toes; Covid-19*

Introduction and Case Report

I present the case of a 41-year-old male Kuwaiti PhD student in the United Kingdom, with no significant past medical or skin diseases, who developed painful localised red skin discoloration on his toes at the end of March. At first, skin lesions were not prominent and were flat to the touch but itching and pain was remarkable (Figure 1). Due to a nation-wide lockdown in the UK which was effective on 23 of March 2020 for Covid-19 [1], he was not able to go to a hospital nor a clinic. He was advised to keep his feet warm using thick woollen socks and comfortable protective footwear, as well as apply topical hydrocortisone cream twice per day to control the itching and paracetamol or ibuprofen to ease the pain as needed. Ten days later, his skin lesions were getting more prominent, painful and involving more toes bilateral.

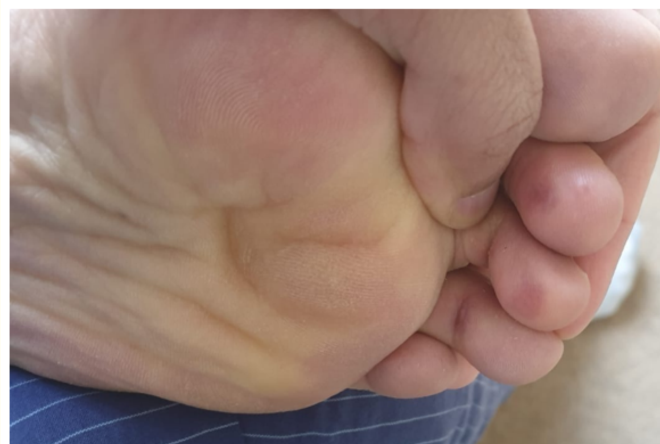

Figure 1: *Swollen second and third toes with localised erythema to violaceous macules on the back of both toes.*

At that time, the patient was still in the UK, thus a video call using WhatsApp was arranged. Both feet having violaceous, infiltrated, plaques on an erythematous background of variable size on the toes tips and back with some skin peeling (Figure 2-4). He described those as itchy and painful, especially when wearing shoes, but his gait was not affect. Toenails, hands and fingers were not involved.

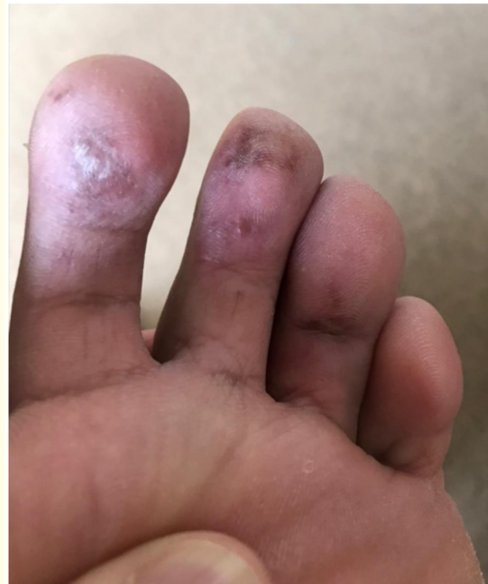

Figure 2: *Left foot: swelling of second, third and fourth toes, Notice on second toe violaceous discoloration on the back is more prominent and elevated. Red to brownish discoloration of third and fourth toe.*

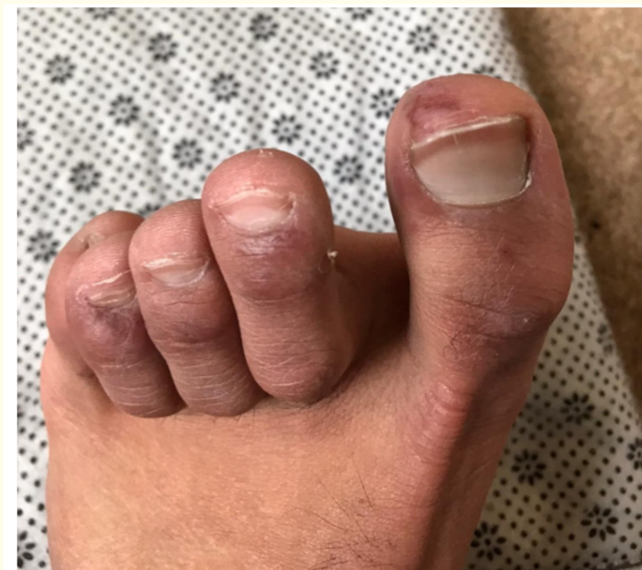

Figure 3: *Left foot: tip of big toe with brown discoloration and swelling of second and forth toes with dusky pigmentation. Notice no nail changes.*

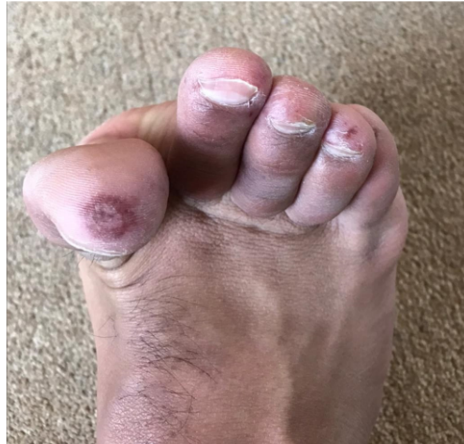

Figure 4: *Right foot: similar skin changes involving tips of multiple toes. Note nails not affected.*

No past history of trauma or expose to extreme cold temperatures. Patient never experienced Raynaud phenomenon, acrocyanosis, chilblains (perniosis) or photosensitivity. No personal or family history of collagen vascular diseases such as lupus erythematosus. He was instructed and explained to how to do full skin examination which was unremarkable. He denies taking any medication or herbal treatment before his feet rash.

The appearance of the plaques was preceded by high grade fever (38.9 - 39.3°C), sore throat, headaches, dry cough, myalgia and chills lasting for 21 days on the 1st of February 2020 and his skin plaques started on 30 of March, which is about 37 days between COVID-19 like symptoms and skin manifestations.

His skin lesions were getting darker and the tip of right big toe showed necrotic brown-black change of color while some toes lesions started to dye and peel skin (Figure 5). Still, no other skin manifestations or lesions were on other body sites. He was evacuated to Kuwait and kept at institutional quarantine for 14 days. During quarantine, Nitroglycerin ointment 2% (NITRO-BID) was started on 10th of May. Within 5 days, brownish black discolorations started to improved, with complete cure (Figure 6 and 7).

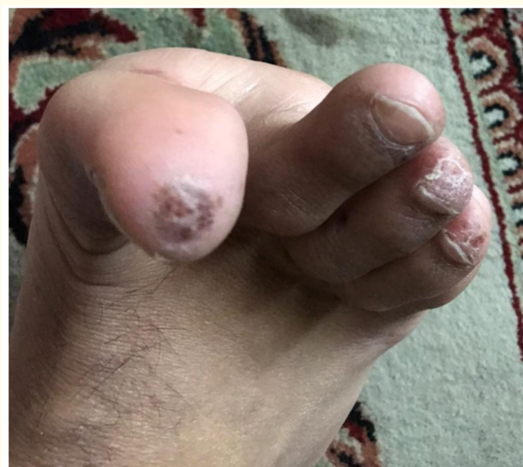

Figure 5: *Right foot: brown-black discoloration on the tip of big and fifth toe, dry and skin peeling of the tip of fourth toe.*

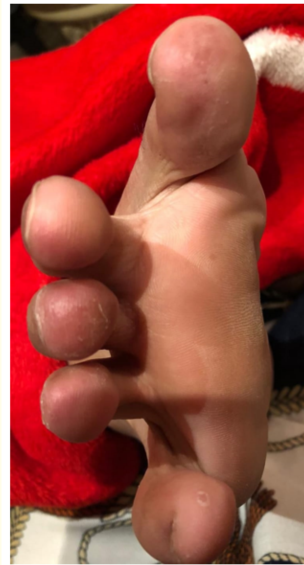

Figure 6: *Right foot resolution of all discolorations after using topical Nitroglycerin ointment 2%.*

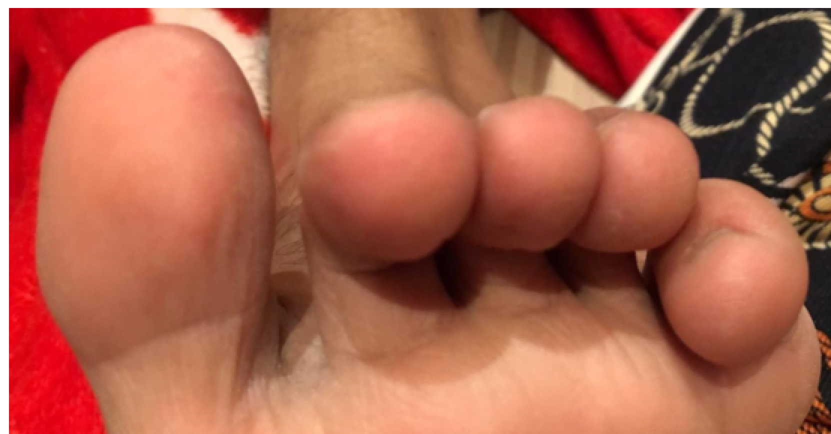

Figure 7: *Left foot resolution of all toes.*

Discussion

On 30 January 2020, the World Health Organization declared SARS-CoV-2 as International Public Health Emergency [2]. On 11 February 2020, WHO announced a name for the new coronavirus disease: COVID-19 [2].

Covid-19 was first described as respiratory disease, as observing and treating more cases systemic involvement is confirmed were many organ systems can be affected, including the skin. Several skin manifestations were reported in patients with confirmed or suspected COVID-19 and these skin manifestations included morbilliform rashes, a papulovesicular varicella-like eruption, urticaria, livedoid rashes and petechial/purpuric lesions [3-7].

A study from Wuhan, China of seven critical COVID-19 adult patients documented limb ischemia and gangrene in the feet and hands, which accounted for 21% of critically ill patients hospitalized at the same time [8]. Several medical papers from Spain, Belgium and others described a painful feet lesions on toes and soles; whether the patients were infected or not was not always clear [9]. A press release from the French National Union of Dermatologists and Venereologists warns of skin manifestations of COVID-19 that the group classifies as acrosyndromes [10]. This group defines symptoms as the appearance of pseudo-frostbite, a sudden appearance of persistent and sometimes painful redness, and transient hive lesions on the fingers and/or toes [10].

We now hear the term "COVID toes" being noted in the literature to describe lesions that appear on feet resembling those seen when exposed to cold temperatures, frostbite. Differential diagnosis for these lesions can be frostbite, Raynaud's disease or chilblains. The American Academy of Dermatology has compiled a registry of skin manifestations associated with Covid-19, about half of the registry cases were COVID toes [11]. Many hypotheses of the pathogenesis of COVID toes, Researchers out of the Pathology and Cardiology Departments from University Hospital Zurich, in Zurich, Switzerland speculate that the virus attaching in these small vessels results in the vascular symptoms now known as COVID toes [12].

With regard to this patient he did not have a positive COVID-19 swab; he had, however, a very suggestive history of respiratory disease 37 days back to his feet skin manifestation. No personal or family history of connective tissue disease of Raynaud phenomenon, acrocyanosis, chilblains (perniosis), or photosensitivity. Occurrence of his skin rash in warm months and his lesions did not resolve spontaneously even when coming back to Kuwait with very warm weather. The diagnosis of COVID toes has been based on the patient's history and the physician's clinical judgment.

Conclusion

To the my best knowledge, this is the first reported case of COVID toes not only in Kuwait but in MENA region. Nitroglycerin ointment 2% could be a possible treatment for COVID toes, which improved this patient's feet.

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