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Cutaneous Manifestations of COVID-19 in Nepal: A Series of Case Reports

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Abstract

Coronavirus Disease 2019 (COVID-19) is an illness caused by SARS-CoV-2. Case series of large population on cutaneous manifestations of COVID-19 are yet to be reported from Nepal. Among the cases in our study, onset of urticarial rash prior to onset of fever and systemic symptoms can be very important in preventing the chain of transmission of COVID-19 infection. Knowledge among medical practitioners of varied cutaneous features of COVID-19 can lead to testing COVID-19 in these cases and an early diagnosis.

Key words: COVID-19; Cutaneous manifestations; Urticarial rash.

INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is an illness caused by SARS-CoV-2, which was first identified from respiratory tract.¹ It was declared as a public health emergency by World Health Organization and Nepal.² A student who returned from Wuhan presented with cough in Sukraraj Hospital and was diagnosed by Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) as the first COVID-19 patient in Nepal.³

Skin can also be the portal of entry of the COVID-19 virus, although the tropism of virus for respiratory tract is higher.⁴ Cutaneous rash of various morphologies can be present in a fairly high number of patients with COVID-19 infection.⁵ Data of 88 patients of COVID-19 from Italy showed erythematous rash in 14 patients, widespread urticaria in 3 patients and chickenpox-like vesicles in 1 patient.⁵ A case survey of COVID-19 showed 5 morphologic patterns: maculopapular lesion in 47% of patients, urticarial rash in 19%, pseudo chilblain in 19%, livedo or necrosis in 6 % and other vesicular eruption in 9 % of patients.⁶

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More systematic, methodologically sound case series on cutaneous manifestation of COVID-19 from Nepal is required. Till date a case series of four patients from a government hospital of Kathmandu has been published.⁷ Our main objective of the study is to present the largest number of patients with cutaneous manifestations, their varied morphologies, and the febrile urticarial rash prior to the diagnosis of COVID-19 infection. Here, we report 14 cases of COVID-19 and the unique phenomenon of onset of urticarial rash prior to fever and its early diagnosis which led to early isolation and prevention of chain of transmission.

CASE REPORTS

We report 14 cases of COVID-19 with cutaneous manifestation, all of which presented with rash before or after COVID-19 virus infection.

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Table 1: Cutaneous manifestation and number of patients with the corresponding diagnosis

Cutaneous manifestation	Number of cases
Urticaria (Figure 1)	
• Chronic Urticaria	4 cases had onset after COVID-19 infection
• Acute urticaria	1 patient had urticaria prior to onset of fever
• Acute urticaria	1 patient had fever prior to onset of acute urticaria
• Dermatographic urticaria	1 patient
Urticarial vasculitis (Figure 2)	1 patient
Acneiform eruptions	2 patients
Maculopapular rash (Figure 3)	2 patients
Herpes zoster (Figure 4)	1 patient
Acute Cutaneous Lupus Erythematosus (ACLE) (Figure 5)	1 patient



Figure 1: Chronic Urticaria following COVID-19 infection with erythematous edematous wheals and flare.



Figure 2: Urticarial Vasculitis following COVID-19 infection with persistent painful pigmented wheals.



Figure 3: pruritic erythematous maculopapular rash over anterior chest and abdomen following COVID-19 infection.



Figure 4: Herpes Zoster involving thoracic dermatome following COVID-19 infection with segmental unilateral dermatomal involvement



Figure 5: ACLE following COVID-19 infection with reticular erythema of thigh.

Discussion

Cutaneous rash can be present in a fairly high number of patients suffering from COVID 19 with varying cutaneous features.⁵ Case series of large population on Cutaneous manifestations of COVID-19 are yet to be reported from Nepal.⁷

The unique phenomenon of onset of urticarial rash prior to onset of fever and its diagnosis was gratifying as early isolation and prevention of chain of transmission was possible.

In our study, 4 patients had chronic urticaria. Urticarial lesion was seen in 73 patients (19%) with COVID-19 in a nationwide study from Spain which lasted for a shorter period (average= 6.8 days).⁶ Widespread urticaria was seen in 3 among 88 patients, in a study from Italy, which was the second most common cutaneous manifestation after erythematous rash. Urticarial lesions can occur in variety of clinical conditions and can be nonspecific. (Figure 1) However, the onset of urticarial rash prior to onset of fever and systemic symptoms can be very important in preventing the chain of transmission of COVID-19 infection. Knowledge among medical practitioners of varied cutaneous features of COVID-19 can lead to testing COVID-19 in these cases and early diagnosis.⁸ Symptomatic dermatographism can be diagnosed

in the time of COVID-19, as the dermatographic urticaria could be induced by the personal protective equipment used in COVID-19 care.⁹ In our study, one COVID-19 recovered patient had urticarial vasculitis. (Figure 2) Urticarial vasculitis can occur in several viral infections and case reports of urticarial vasculitis in COVID-19 recovered patients have been published.¹⁰

In our study, two patients had maculopapular eruption. Maculopapular rash was the commonest skin manifestation (47%) in a nationwide study done in Spain.⁶ (Figure 3)

Similarly, in our study, herpes zoster was seen in 1 patient of COVID-19. Herpes zoster can be the initial manifestation in a patient with latent COVID-19 infection and further complicate the course of COVID-19 infection with co-infection. (Figure 4) Implication of SARS-CoV-2 in occurrence of herpes zoster is yet to be determined and a possible coinfection of herpes zoster in a patient of COVID-19 is postulated.¹¹

Acneiform eruptions were seen in 2 patients in our study. Acneiform eruptions have taken their toll during the COVID-19 pandemic due to the widespread use of masks.¹²

Similarly, cases of COVID-19 infection leading to Systemic Lupus Erythematosus (SLE) have also been reported.¹³ (Figure 5)

In our case series, 3 patients were consulted via teledermatology using Rakuten Viber mobile application, as patients were on home isolation. Use of teledermatology can be very helpful in providing dermatological care to patients in times of COVID-19 pandemic.¹⁴ Similar case series from a government-based hospital of Kathmandu showed use of teledermatology for diagnosis and treatment of cutaneous manifestation of COVID-19.⁷ Similar case series from a government-based hospital of Kathmandu showed use of teledermatology for diagnosis and treatment of cutaneous manifestation of COVID-19.⁷

As this was a hospital-based study performed, in limited number of patients, the cutaneous findings of COVID-19 may not be representative of the entire population, which happens to be one of the limitation of our study.

Conclusion

COVID-19 can cause varying degrees of illness in different organ systems and patients can often present

without fever. Among the several cases in our study, the onset of urticarial rash prior to onset of fever and systemic symptoms can be very important in preventing the chain of transmission of COVID-19 infection. Knowledge among medical practitioners of

varied cutaneous features of COVID-19 can lead to testing COVID-19 in these cases and an early diagnosis.

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