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Original Research Paper

Internal Medicine

AN OBSERVATIONAL STUDY REGARDING DERMATOLOGICAL MANIFESTATIONS IN SARS-COV-2 POSITIVE PATIENTS

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ABSTRACT

Background: Covid 19 disease caused by novel coronavirus (severe acute respiratory syndrome corononavirus-2; SARS-CoV-2) has affected millions of people across the world with variable clinical severity, resulting in both pulmonary and extrapulmonary symptoms. There are only a few reports of dermatological manifestations of COVID-19.

Objective: To study the various dermatological manifestations in SARS-CoV-2 positive patients in North Indian patients.

Patients and Methods: 100 SARS-CoV-2 positive patients were included in our study. A complete general physical examination was done to determine the nature and frequency of various dermatological manifestations in these patients.

Results: Out of the 100 positive cases, 65 were males. The mean age of the group was 38±2 years. 13 patients (13%) were found to have dermatological manifestations. 6(46.15%) patients had itching without any specific cutaneous signs,3 (23.0%) had herpes zoster ,2 patients (15.38%) had urticaria, 1 patient (7.6%) had aphthous ulcers and 1 patient (7.6%) had maculopapular rash .Abdomen and back were the most frequently affected area, followed by the arms and legs.

Conclusion: Dermatological manifestations may be noted in a small group of COVID-19 patients. The nature of presentation may vary in different population groups and based on severity of disease.

KEYWORDS : COVID-19, SARS-CoV-2, skin, dermatology, cutaneous manifestation

INTRODUCTION

The outbreak of novel coronavirus disease (COVID-19) in the Wuhan, Hubei province of China has now spread all across the world. The cluster of pneumonia cases resulting due to COVID-19 were found to be caused a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The clinical spectrum of SARS-CoV-2 infection appears to be wide, encompassing asymptomatic infection, mild upper respiratory tract illness, and severe viral pneumonia with respiratory failure and even death(1)Besides the systemic manifestations, skin involvement has also been reported as a part of this viral infection.(2) Dermatological manifestations in COVID-19 can occur either as a direct implication of the SARS-CoV-2 or as a consequence of prolonged wearing of personal protective equipment (PPE). (2) The spectrum of dermatological manifestations owing to the disease process needs elaboration and data from various regions across the globe, involving different ethnicity, need to be processed. The present study elaborates various dermatological findings in SARS-CoV-2 positive patients from North India.

MATERIAL AND METHODS

The study was conducted for 1 month in our hospital (DCHC). All patients testing positive for SARS-CoV-2 after RT-PCR (Nasopharyngeal swab) and admitted in the hospital, were enrolled for this study. Only asymptomatic and mild/moderate disease patients were included in the study. Disease severity was assessed as per world health organization (WHO) definition and guidelines. (3). Symptoms in mild disease were: fever >38^{0}C, sore throat, cough, fatigue and headache, and symptoms in moderate disease included: fever, cough, dyspnoea, fast breathing, respiratory rate 15- 30/min and SpO2 90%-94%. Patients with severe-to-critical disease were not included in the study, since they were referred to dedicated covid hospital. Clinical photography was not done due to lack of guidelines for clinical photography during COVID-19 and risk of transmission of SARS-CoV-2 through camera.

Statistical analysis was done using IBM® SPSS software, version 20. Numerical data was presented as number and standard deviation (SD); and categorical data was presented as number and percentage. The level of significance, wherever applicable, was taken as $p<0.001$.

RESULTS

A total of 100 positive cases (65 males and 35 females) were included in the study. The mean age of the patients was 38±2 years. 6(46.15%) patients had itching without any specific cutaneous signs,3(23.0%) had herpes zoster ,2 patients (15.38%) had urticaria, 1patient (7.6%) had aphthous ulcers and 1patient (7.6%) had maculopapular rash. Abdomen and back were the most frequently affected area, followed by the arms and legs.

No case had palm/sole involvement; None of the patient had any pre-existing dermatological condition. The maculopapular rash was centripetal in distribution. The presence of maculopapular rash was only seen in symptomatic patients.

DISCUSSION

COVID-19 may present as a systemic disease majorly affecting pulmonary, cardiovascular, renal and other systems of the body. There is limited literature available regarding the dermatological manifestation. Available literature suggests that dermatological manifestations can occur either due to direct implication of the virus on the body or due to personal protective equipment (PPE). Some studies have also suggested the exacerbation of previous dermatoses during COVID-19. Atypical presentation of erythema multiforme has also been reported in COVID-19 patients. (4).

The median age of the patients was 38 years in our study. Studies done by Masson et al. and Fernandez et al (5,6) had mean age of 27 years and 20 years whereas in the studies done by Guan et al. and Galvan et al., the median age was 47 years and 49 years, respectively (7,8) . Male to female ratio was 1.8:1 in this study. It was 1.38:1 and 1.16:1 in the studies done by Guan et al. and Fernandez et al. respectively, whereas in a study by Galvan et al. It was 1:2. [6,7,8]

In our study, the prevalence of skin manifestations was 13% which is similar to the study conducted by Recalcati et al had prevalence of skin manifestations (20%) (2).

Nonspecific pruritis was the most common manifestation in our study (46.15%) In a study by Galvan et al, itching was the most common symptom reported in 68% of patients with skin rash followed by burning sensation in 20.83%. (8) Urticaria was seen in 15.38 % of patients in our study. In a study by Galvan et al. and Recalcati et al., Urticaria was reported in 19% and 16.7% of patients. (2,8)

In our study maculopaular rash was found in 7.6 % of all

patients with cutaneous manifestations whereas it was seen among 47% of patients in the study by Galvan et al. (8) and 9% in study by De Masson et al. (5)

In this study, the abdomen was the most common site of rash followed by upper and lower extremities. Trunk was involved in 69.4% of patients, followed by hands and feet (19.4%) in a study by Sachadeva et al. (9)

Herpes Zoster was seen in three patients in our study, which is similar to Galvan et al. who reported 3 cases of Herpes Zoster in their study.(8) It may be a complication of decreased cell– mediated immunity associated with COVID 19.

Our study has limitations in the form of lack of clinical photography, small sample size, exclusion of patients with severe-to-critical disease and lack of histopathological correlation.

CONCLUSION

Prevalence of cutaneous manifestations among COVID-19 patients was 13% in our study. Various cutaneous manifestations are being reported with COVID-19 disease nonetheless further research and studies are required on the cutaneous association of COVID-19 disease.

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