

ACUTE URTICARIA AND LOCALIZED STAPHYLOCOCCAL SKIN SYNDROME IN CHILDREN WITH SARS CORONA VIRUS INFECTION; CASE REPORT

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ABSTRACT

We report two cases of corona virus infection who presented to Dermatology department with unusual manifestations. First case had fever, urticaria and angioedema with upper respiratory tract symptoms and the second case presented with bullous impetigo progressing to localized staphylococcal skin syndrome.

Keywords: SARS-CoV2, *Angiotensin converting enzyme*, *Urticaria*, *Impetigo*, *Staphylococcal Scalded Skin Syndrome*.

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INTRODUCTION

The general clinical features, course of disease, and outcome of SARS-CoV-2 infection differ between adults and children. Likewise some skin manifestations are more common in children, for instance, chilblains, erythema multiform (EM) and cutaneous Kawasaki-like- syndrome. Incidence of urticaria has been underestimated in children and the usual presentation is urticarial lesions in an otherwise asymptomatic patient¹. Bullous impetigo progressing to localized SSSS has never been reported with Corona infection. We report two cases of SARS corona virus infection in children presenting with unusual dermatological feature. First case had fever, urticaria and angioedema with upper respiratory tract symptoms and second case presented with bullous impetigo progressing to localized staphylococcal skin syndrome.

associated with angioedema of eyes , hands and feet. He was admitted in child ward and vitals were monitored 8 hourly. Urticaria charting was done and injection Hydrocortisone 5mg/kg/day and Injection Chlorpheniramine 0.1 mg /kg/day in divided doses were initiated. His PCR for SARS-CoV-2 was positive. Response to treatment was good with no new lesions and older lesions settled in 48 hours. He was discharged on 4th day on syrup Loratadine 5 ml daily with follow up in out door clinic.

CAPSULE SUMMARY

Two cases of covid in children with unusual cutaneous features are presented.

First case: Fever, urticaria and angioedema with upper respiratory tract symptoms

Second case: Bullous impetigo progressing to localized staphylococcal skin syndrome.

Case 2

A two and a half years old male child was referred from emergency department for low grade fever of three days and sudden onset of a bullae on back for one day which has busted and given rise to a crusted lesion The child was irritable and the effected area was tender to touch. He had no history of recent respiratory or skin infections. Examination revealed widely distributed impetiginized plaques on face (Figure 1) and back. His clinical diagnosis was extensive Bullous impetigo. He was admitted in child ward and advised inj. vancomycin 500mg iv in 30 min infusion once a day. Follow up of the case on second day revealed that his lesion on the back has extended to involve more then half of his back (Figure 2) indicating a localized SSSS. Vancomycin induced Toxic Epidermal Necrosis (TEN) was also kept in differential diagnosis as a possible cause of this worsening of the lesions. Injection Vancomycin was stopped and injection linezolid was initiated. PCR for SARS-CoV-2 was advised which came out to be positive. Skin biopsy showed splitting of epidermis between granular and spinous layer confirming staphylococcal scalded skin syndrome and excluding TENS. Patient was discharged on day 5 with complete resolution of skin lesions.

Case 1

A 4-year-old boy presented with complaint of generalized urticarial rash of one day duration. He had low grade intermittent fever with running nose, sneezing and mild non productive cough. Urticarial lesions had progressed and were

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Figure 1: Impetiginized lesion



Figure 2: Extension of lesion on the back.

DISCUSSION

SARS-CoV2 is an enveloped, positive-sense, single-stranded RNA virus with crown-shaped surface spike proteins². The spike protein interacts with Angiotensin converting enzyme 2(ACE-2), which making it easier for the virus to bind to target cells' cell surfaces. Viral entry into the cell is facilitated by cellular serine proteases. ACE-2 expression is primarily found in airways, GIT, skin and other body organs and is one of the major risk factors for vulnerability³. Viral clearance in SARS CoV2 is caused by type 1 IFN-mediated antiviral responses and activation of CD4, TH1, and CD8 cytotoxic cells⁴.

There are two categories of cutaneous manifestation of SARS-CoV-2, (i) inflammatory and (ii) vascular. Inflammatory include maculo-papular or morbilliform lesions, urticaria, vesicular lesions, and Kawasaki like syndrome in children and vascular include chilblain like lesions, petechial/purpura and livedoid eruption. Urticaria, vesicular rash and maculo-papular rash is seen in all age groups, but chilblains, Erythema Multiforme (EM), and cutaneous features of Kawasaki-like syndrome are more common in children and young patients^{1,5,6}.

Urticarial lesions are less common in pediatric population and are seen in otherwise asymptomatic children. Our first case was symptomatic having urticaria presented with fever, upper respiratory tract symptoms and angioedema of the face. Bullous impetigo progressing to localized Staphylococcal Scalded Skin Syndrome has not been documented before as a feature of SARS-CoV-2 infection. Our second case initially presented with bullous impetigo which progressed to localized SSSS. Differentiation from Vaccinia induced TEN was made on biopsy.

SARS-CoV-2 cutaneous manifestations have been increasingly reported and dermatological findings prompt patient isolation and testing⁵. Sometime SARS-CoV-2 infected children may present to dermatologist as sole or unusual manifestation of the disease. It is important for the dermatologist to be well versed with the increasingly common and the newly described cutaneous manifestations of SARS-CoV-2 infection since it may help them to make the correct diagnosis.

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