LETTER TO THE EDITOR

# Reactive infectious mucocutaneous eruption triggered by COVID-19 infection in an adult patient

*Editor,*

The term reactive infectious mucocutaneous eruption (RIME) has recently been described and is characterized by mucositis affecting at least 2 mucous membranes with limited or no cutaneous rash, secondary to diverse respiratory infections.[1,2] These cases had previously been associated with *Mycoplasma pneumoniae* (*Mycoplasma* induced rash and mucositis), although RIME can be triggered by adenovirus, influenzavirus, parainfluenza virus, *Chlamydia pneumoniae* or SARS-CoV2, among others.[2] COVID-19 infection, caused by SARS-CoV-2, can present with a wide variety of mucocutaneous manifestations. Here, we report a case of RIME secondary to SARS-CoV-2.

An otherwise healthy 39-year-old man was referred by his family physician to the Dermatology department due to a 2-week history of cough, low-grade fever and multiple oral erosions along with ocular, nasal, urethral and anal pain. He explained a 6-kg weight loss and denied taking medication or drugs during the previous 3 months. Physical examination revealed severe oral and genital mucositis (Fig. 1a,b), and a few erythematous round plaques affecting the penis and left thigh. Laboratory tests were normal and serologies for *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, influenzavirus A/B, parainfluenzavirus 1–4, adenovirus, herpes simplex virus types 1 and 2, parvovirus B19, human herpesvirus 6, syphilis, HIV and Epstein–Barr virus were negative. He tested positive for SARS-CoV-2 by polymerase chain reaction (PCR) of a nasopharyngeal swab. Oral prednisone 30 mg daily was prescribed. At a follow-up visit 10 days later, all mucosal lesions and respiratory symptoms had resolved. He has remained asymptomatic during a 2-month follow-up.

Differential diagnosis of mucositis is broad, including severe drug reactions such as toxic epidermal necrolysis or Stevens–Johnson syndrome, bullous disorders, autoimmune diseases, erythema multiforme, Kawasaki syndrome in children and hand-mouth-foot disease caused by Coxsackie A16, among others. In our case, the nasopharyngeal PCR was the key to establishing the diagnosis of RIME secondary to SARS-CoV2.

Approximately 11% of patients with COVID-19 infection have oral involvement,[3] including aphthous-like lesions, herpetiform lesions and petechiae, as well as red and white plaques. We have found six reported cases of RIME secondary to COVID-19:

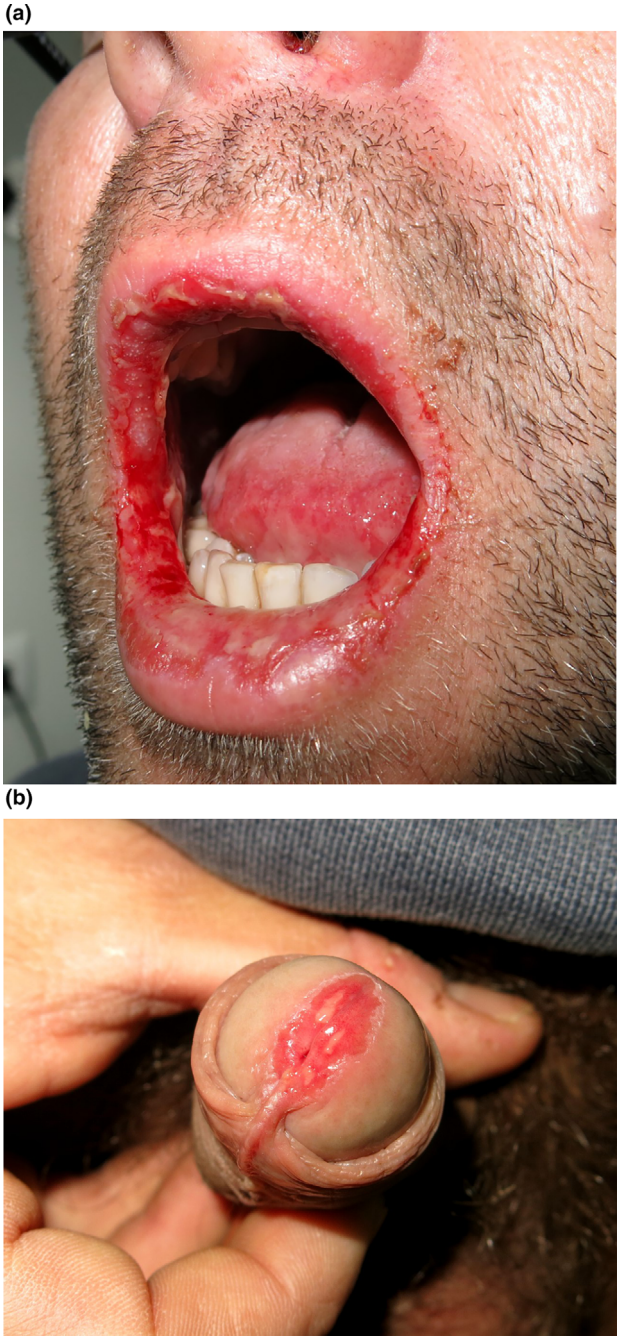


**Figure 1** Reactive infectious mucocutaneous eruption triggered by SARS-CoV-2. (a–b). Multiple erosions on oral mucosa (a) and urethral mucosa (b).

five adolescents (ages 14 to 17),[1,2,4,5] and only one adult, a 23-year-old woman presenting with recurrent RIME since age 18. Her first episode was triggered by *M. pneumoniae*, the second by influenza A, and the third by SARS-CoV-2.[1]

Mucocutaneous lesions of RIME appear with a latency of 4 days to 12 weeks after symptoms of COVID-19 infection.[5] Several pathogenic mechanisms have been proposed, including immune complex deposition, complement activation and molecular mimicry.[1] The treatment for RIME is merely supportive since it is self-limited, resolving in 1–3 weeks, although corticosteroids have been indicated in severe cases.[4] In one non-responding patient, cyclosporine was successfully prescribed.[5] The recurrence rate of RIME is unknown, but MIRM has been reported to recur in up to 8% of patients.

The differential diagnosis of mucositis can be challenging. RIME can be secondary to diverse infectious agents. Although more frequent in adolescents, RIME secondary to SARS-CoV-2 can also appear in adults. Our case underlines SARS-CoV-2 infection as a potential cause of mucositis.

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## Conflict of interest
None declared.

## Informed consent
The patient in this manuscript has given written informed consent to the publication of his case details.

## Data availability statement
The data that support the findings of this study are available from the corresponding author upon reasonable request.

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