Case Report: Persistent Intermittent Delayed Swelling (PIDS) of Hyaluronic Acid filler triggered by COVID-19

Relato de caso: edema tardio intermitente e persistente (ETIP) de implante de ácido hialurônico desencadeado pela Covid-19

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ABSTRACT

Persistent Intermittent Delayed Swelling (PIDS) due to hyaluronic acid implantation is an immune-mediated inflammatory reaction resulting from immunogenic phenomena to the filler itself, and its ability to retain water, thus configuring local edema. Viral or bacterial infections can trigger the condition. As with many infectious diseases, COVID-19 may have several signs and symptoms on the skin that are not yet fully understood, but many associated skin manifestations have already been described. Through this case report, we report the novelty of an ETIP-type reaction triggered by SARS-CoV-2 infection.

Keywords: Hyaluronic acid; Coronavirus; Coronavirus infections; Foreign-body reaction

RESUMO

O edema tardio intermitente e persistente (ETIP) por implante de ácido hialurônico é uma reação inflamatória imunomediada decorrente de fenômenos imunogênicos ao próprio preenchedor bem como de sua capacidade em reter água, conFigurendo assim o edema local. Pode ser desencadeado após infecções virais ou bacterianas. Assim como em muitas doenças infectocontagiosas, a COVID-19 pode vir a apresentar na pele diversos sinais e sintomas que ainda não são completamente compreendidos, porém muitas manifestações cutâneas associadas já foram descritas. Vimos, por meio deste relato de caso, apresentar o ineditismo de uma reação do tipo ETIP, desencadeada pela infecção por Sars-CoV-2.

Palavras-chave: *Coronavírus; Hipersensibilidade; Reação a corpo estranho; Implantes absorvíveis*

INTRODUCTION

Persistent intermittent delayed swelling (PIDS) is characterized by transient, recurrent, and sporadic episodes that may occur after filling with hyaluronic acid (HA). These episodes are marked with the appearance of diffuse, non-depressible edema located along the product implantation area, usually 30 days after the implantation. Therefore it is named delayed, and it only occurs as long as there is HA in the tissue.[1] These reactions were initially attributed to infectious processes along with the implant (biofilm), but today it is believed that only the immunological phenomena can trigger them.[2-3] The literature identified factors such as systemic viral and/or bacterial infections, as well as local infections such as rhinosinusitis and odontogenic, in about 39% of cases, which can trigger the onset of the reaction.[4]

Sars-CoV-2 is a zoonotic virus emerging from the coronaviruses family that caused the pandemic named COVID-19, which started and was identified in November 2019 in Wuhan province, China.[5] The most common clinical signs are fever, sore throat, runny nose, cough, anosmia, dysgeusia, myalgia, leucopenia, and lymphopenia.[6] The incubation period is from two to 14

How I do?

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days, with a potential for asymptomatic transmission. However, symptoms usually manifest until the fifth day of infection.[7]

CASE REPORT

A 34-year-old woman presented with a history of sudden prostration and the appearance of an elevated, painless, and well-defined area on the upper lip. The lesion appeared in the same site of the hyaluronic acid filling application to define the lip contour performed one year and four months ago. She reported having already presented edema in the same location a few times, usually associated with rhinitis and pharyngitis, but at the moment, she did not have any respiratory complaints. After six days, the patient presented a new episode of intense prostration, this time accompanied by myalgia, headache, and 38.5 °C fever. She waited three more days to collect nasal and pharyngeal swabs for RT-PCR exam for Sars-CoV-2, which detected the presence of viral RNA, confirming the diagnosis of COVID-19. The patient evolved with no return of fever, improved general condition, and spontaneous reduction of the edema in the upper lip 15 days after its onset.

Figure 1: Painless nodule on the upper lip

Figure 2: Appearance before COVID-19 infection

DISCUSSION

Since its identification, COVID-19 has affected people at different levels of complexity, proving to have mainly a respiratory character. The most severe cases are complicated with the severe acute respiratory syndrome (SARS).[8] However, it can also cause serious diseases in other organs in the nervous, cardiovascular, and renal system, in addition to affecting all other organs of the body and favoring the emergence of secondary infections.[9-18]

The literature has already described that the disease affects other organs, and descriptions of skin involvement have also emerged, with the first compilations and case reports already published. Skin rash, acro-ischemia, maculopapular rash, cyanosis, blisters, purpura, petechiae, gangrene, hives, varicella-like vesicles, pictures resembling perniosis, and COVID toes have been observed.[19-26] However, no picture resembling PIDS has yet been described in a patient with the disease. Thus, this is the first case report of this association.

PIDS episodes associated with infections are premature, of short duration, and can resolve spontaneously.[3] The use of intralesional and oral corticosteroids, and, eventually, hyaluronidase was the usual treatment, leading to the resolution of the condition in most cases, which also corroborates the hypothesis of its immune-mediated etiology.[27]

As it is a new disease, with many signs and symptoms still not entirely known, the presentation of a PIDS condition, as the first symptomatology of COVID-19 in a healthy patient who presented paucisymptomatic evolution, becomes of paramount importance. This is important especially for us, dermatologists, so that we can identify possible COVID-19 patients performing the early diagnosis and increase their chances of having more appropriate treatment, thus taking the necessary measures to prevent the disease's community spread.

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