



A Case of Poststeroid Panniculitis After COVID-19 Infection

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Abstract

Poststeroid panniculitis is a rare complication that occurs after corticosteroids withdrawal. It is caused by the rapid discontinuation or dose reduction of steroids. Clinically, it is seen as subcutaneous nodules located in areas rich in subcutaneous adipose tissue such as cheeks and breasts. It is mostly seen in children. There are very few adult cases in the literature. As far as we know, no case has been reported after Coronavirus disease-2019 (COVID-19) infection. Here, we present a case of poststeroid panniculitis that developed after treatment discontinuation in an adult patient receiving steroids during COVID-19 treatment.

Keywords: COVID-19, poststeroid panniculitis, corticosteroids

INTRODUCTION

Coronavirus disease-2019 (COVID-19) infection, which first appeared in December 2019, is a disease that can affect many systems, especially the respiratory system. Numerous skin manifestations related to COVID-19 have been reported. Urticaria, maculopapular eruption, vasculitis are the most common ones. There are few cases of panniculitis reported after COVID-19, and they often present as erythema nodosum (1). Poststeroid panniculitis, on the other hand, is a rare panniculitis that usually develops after rapid discontinuation of steroid therapy (2). Here we present, a patient who was treated with steroids in the intensive care unit due to COVID-19 infection, who subsequently developed nodules on the face and chest, and was diagnosed with poststeroid panniculitis.

This case is presented because panniculitis may develop after COVID-19, and poststeroid panniculitis (PSP) is rare in adulthood and especially after COVID-19 infection.

CASE PRESENTATION

A 61-year-old female patient was admitted to the emergency room with complaints of weakness, loss of appetite and taste.

She was diagnosed with COVID-19 with polymerase chain reaction. The patient, who was followed up in intensive care unit, was given a dose of 80 mg methylprednisolone (1 mg/kg/day) for 12 days due to respiratory distress. One week after the cessation of steroid therapy, a nodule was noticed in the right breast inferior quadrant. Breast ultrasound was performed and the patient was consulted for general surgery. A tru-cut biopsy was performed with a pre-diagnosis of granulomatous mastitis. However, biopsy was compatible with fat necrosis. Two months after discharge, the patient whose breast complaints continued was consulted to the dermatology outpatient clinic. Dermatological examination revealed a hard indurated nodule with a diameter of 6 cm on the right breast and a hard indurated nodule with a diameter of 5 cm on the right cheek (Figure 1).

Cheek and breast skin biopsies were performed with a preliminary diagnosis of PSP. Histopathological examinations revealed inflammation involving focal lipophage, focal cystic enlargements, and needle-shaped clefts in the subcutaneous lobular area. There were no signs of vasculitis (Figure 2a, 2b). The patient was diagnosed with post-steroid panniculitis with clinical and histopathological findings. Corticosteroid therapy was not



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Figure 1. An indurated nodule is noticed on the patient's right cheek

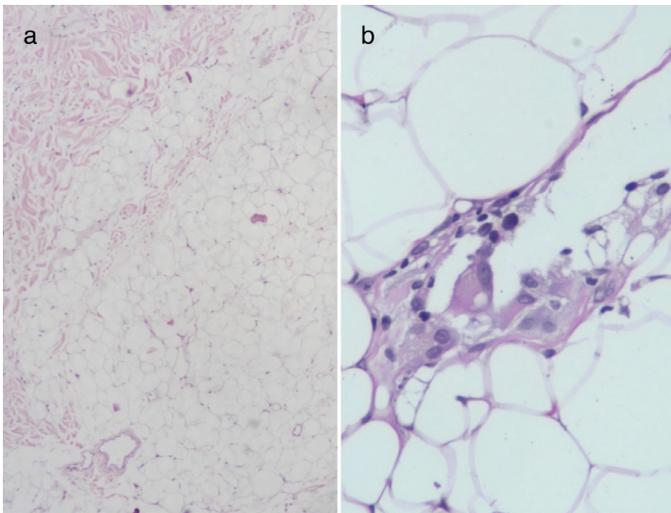


Figure 2. (a) Inflammation is seen with focal cystic enlargements in the subcutaneous lobular area. Hematoxylin eosin, x40 (b) Needle-shaped clefts are seen in the subcutaneous tissue. Hematoxylin eosin, x200

initiated because spontaneous resolution could occur, instead colchicine tablet (0.5 mg bid) was started. Partial regression was observed in the lesions during the 3-month follow-up.

DISCUSSION

The most common skin findings associated with COVID-19 have been reported as morbilliform, vesicular, urticarial, petechial rashes, transient livedo reticularis, pernio-like lesions, and ischemic acral lesions (1). There are few cases of panniculitis reported after COVID-19 infection. Eosinophilic panniculitis developed in one patient following COVID-19 infection (3). Suter et al. (4) reported that erythema nodosum may develop as a skin manifestation of COVID-19 infection.

PSP is a rare complication that develops after discontinuation of systemic corticosteroid therapy. PSP was first described

by Smith and Good (2). Smith and Good (2) noticed that 11 children who received corticosteroid therapy for the treatment of various diseases such as rheumatic fever and nephrotic syndrome developed erythema nodosum-like lesions following cessation of treatment. PSP is characterized by erythematous nodules and indurated plaques that develop within days and weeks following rapid reduction or cessation of steroid dose. Nodules are especially located on the cheeks, arms and trunk (2,5). PSP shares the same histopathological findings with subcutaneous fat necrosis. These are foamy histiocytes located in the lobular subcutaneous tissue, inflammation rich in lymphocytes and needle-shaped clefts (5). Therefore, PSP can be mistakenly diagnosed as subcutaneous fat necrosis, as in our case.

PSP lesions usually regress gradually within weeks or months. Very rarely, ulceration may develop in the presence of severe disease. In case of early diagnosis, it is recommended to restart high-dose systemic steroids, then slowly decrease the dose (5,6).

There are fewer than 50 PSP cases reported in the literature, of which only 4 are adult PSP cases (6-8). As far as we know, a PSP case developing after COVID-19 infection has not been reported.

CONCLUSION

This case is presented as a reminder that panniculitis may rarely develop after COVID-19, with the exception of lesions such as erythema and urticaria. Necessary examinations in terms of panniculitis should be performed in the presence of subcutaneous nodules in patients who receive corticosteroid treatment due to COVID-19.

Ethics

Informed Consent: Informed consent form was obtained from the patient.

Peer-review: Internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: İ.U., İ.O.T., Ö.Y., Concept: İ.U., İ.O.T., Design: İ.U., İ.O.T., Data Collection or Processing: İ.U., Ö.Y., Analysis or Interpretation: İ.U., İ.O.T., Ö.Y., Literature Search: İ.U., Writing: İ.U.

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