

CASE IMAGE

A case of COVID-19-related necrotic nasal ulceration

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UK.Email: dimitriosangelou.k@gmail.com**Abstract**

We are reporting a case of a COVID-19-related necrotic nasal ulcer. All other common etiologies were excluded after a full round of investigations. Even though COVID-19 has been known to cause skin ulcers via different mechanisms, this is the first nasal ulcer to be reported in the current literature.

KEYWORDS

COVID-19, nasal, necrotic, ulcer

1 | CASE REPORT

This is a case of a 36-year-old woman who presented to our department after having a non-healing nasal ulcer. She reported a 3-week history of worsening ulceration that had followed a recent COVID-19 infection. The patient reported no other past medical history, no other systematic illness, no history of intranasal drug use and a full course of COVID-19 vaccinations. This was a full-thickness cutaneous ulcer involving the nasal vestibule, soft triangle, part of the columella on the right, and extending down to the cartilage (Figures 1 and 2). During the third week, the ulcer had become sloughy and deep and failed to respond to antibiotic therapy.

Her preceding COVID-19 infection was characterized as mild, it was confirmed by a PCR test and did not require hospitalization or supplementary oxygen.

Our patient was investigated with a nasal biopsy of the skin, mucosa and a part of the columellar cartilage that showed non-specific necrosis with an attempt at granuloma formation and no evidence of malignancy.

Extensive workup was performed including vasculitis and rheumatologic screens which came back negative. These included a full blood picture, liver screen, CRP, ESR,

complement, rheumatoid factor, ANA, Anti-DNA Elisa, ANCA screen, immunoglobulins, myeloperoxidase, and Pr3. In addition to this, all microbiology cultures showed no significant growth.

Following the biopsy, the ulcer started a slow healing process that carried on for approximately 3 months with residual notching in the alar margin and narrowing of the internal nasal valve. The patient remained asymptomatic and had no other associated ulcers or sinonasal vasculitic symptoms. Her only remaining concern was the reduced airflow during exercise due to the narrower internal valve as well as the cosmetic appearance of the scar.

2 | DISCUSSION

Nasal ulcerations can be related to a wide differential diagnosis that includes malignancies, intranasal drugs, infections as well as other inflammatory causes like vasculitis.¹ Determining the exact cause can often prove to be challenging. We find that this is a very interesting case as it represents one of the few available cases of COVID-19-related nasal ulceration in the current literature. There are several reports of facial pressure ulcerations



FIGURE 1 Ulcer affecting the nasal vestibule, soft triangle, and part of the columella on the right.



FIGURE 2 Depth of ulceration exposed after removing the superficial scab. The ulcer is full thickness and is exposing.

including lip, tongue, and nasal ulcers but those differ significantly from our case in the fact that our patient had no COVID-19 respiratory complications and she did not require the use of any medical devices. The ulcers that are commonly described are related to pressure areas caused by the application of medical devices such as non-invasive ventilation masks, high-flow devices, and pronation of patients.² COVID-19 has been known to cause a range of cutaneous lesions and rashes and several mechanisms have been identified describing their pathogenesis. These can be categorized as inflammatory or vasculopathic lesions.³

This brings us to the conclusion that COVID-19 can be considered a possible cause of nasal ulceration. This should be considered an exclusion diagnosis due to its rarity and any clinician should first exclude other common conditions via relevant tests and watchful waiting before attributing the ulceration to COVID-19.

3 | PATIENT'S PERSPECTIVE

Our patient stated that this article clearly represented the situation with a specific mention to some concerns about the scarring.

AUTHOR CONTRIBUTIONS

Dimitrios Angelou: Data curation; formal analysis; investigation; methodology; project administration; resources; software; validation; visualization; writing – original draft; writing – review and editing. **Nicholas Calder:** Conceptualization; formal analysis; project administration; supervision; validation; visualization; writing – original draft; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to disclose.

DATA AVAILABILITY STATEMENT

This article has not been published in any other online or paper journal and the pictures have not been uploaded elsewhere.

ETHICAL APPROVAL

No ethical approval was required for this case. This article was not associated with any interventions or any change in the patient's care. Data were anonymized in accordance with GDPR regulations and the patient consent form has been received.

CONSENT

Our patient has given both verbal and written consent for the publication of this paper. She was given the opportunity to ask questions and provide her feedback on the patient's perspective section. The consent form has not been made publicly available to protect our patient's confidentiality.

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