

LETTER TO THE EDITOR

Management of oral lesions following COVID-19 vaccination

Dear Editor,

The occurrence of oral lesions following COVID-19 vaccination (Chun et al., 2022) is increasing following the global immunization drive (Amorim Dos Santos et al., 2021). Hence, it seems significant to propose effective ways to manage these reactions to improve patient outcomes.

Most common oral lesions reported in the literature following COVID-19 vaccination include maculae, petechiae, desquamation, edema, erythema multiforme-like lesions, erosions, and ulcers on the hard palate, oral floor, lips, tongue, and gingiva (Chun et al., 2022; Mazur et al., 2021; Sayare et al., 2021). Few studies also reported pemphigus vulgaris, bullous pemphigoid, herpes zoster, lichen planus, Stevens-Johnson syndrome, Behçet's disease, Bell's palsy, facial swelling, and lips, face, or tongue swelling associated with anaphylaxis, burning mouth syndrome, and oral candidiasis (Chun et al., 2022; Mazur et al., 2021; Thongprasom et al., 2021).

In many cases, young individuals, females, persons who had taken the second dose, and those with a history of COVID-19 infection are more prone to these lesions (Menni et al., 2021). However, some reports have been found even after the third dose of the vaccine (Santana et al., 2022). It is yet unclear exactly how these oral symptoms are caused. Release of inflammatory cytokines such as IL-6 and IL-1 as a result of lipid nanoparticle component of the mRNA vaccines, development of autoimmune reaction due to IL-6 overproduction and cross-reactivity (Awaya et al., 2022), inhibition of regulatory T-cell differentiation by IL-6, activation of immune cells by vaccine antigens expressed on keratinocytes, and oral keratinocytes being directly infected by the virus (Maciel et al., 2020; Tabari et al., 2022) are some of the mechanisms for these oral lesions following COVID-19 vaccination. The interferon release also has an immunostimulatory effect, which was more prominent after the second vaccination (Awaya et al., 2022). There are also reports of increased inflammatory cytokines following tobacco smoking and baths (Awaya et al., 2022).

Conventional approaches have been used to manage these oral lesions (Chun et al., 2022). In most cases, after consulting a physician to rule out any other medical issue, application of 0.1% dexamethasone solution thrice daily, 50 mg/g nystatin syrup five times daily, acyclovir ointment, and 0.1% chlorhexidine gargle twice daily relieved the symptoms. Similarly, lichen planus in the buccal mucosa resolved with 0.1% dexamethasone solution, nystatin solution (100,000 U/

mL), and 0.1% dexamethasone gargle thrice daily. Neuropathic pain following the COVID-19 vaccination was managed by 0.5 mg clonazepam and 150 mg pregabalin daily. Burning-mouth syndrome was relieved using a 2% lidocaine gargle daily and 10 mg nortriptyline. Oral candidiasis cases found relief using 0.5 mg clonazepam and fluconazole syrup regularly. All cases were resolved within a varying period of 1 week to 1 month, while some even took up to 2 months. These treatments significantly relieved all symptoms, including tongue pain and ulcerative lesions. However, erythema of palatal gingiva took a few weeks longer (Chun et al., 2022). It is recommended that after COVID-19 vaccination, patients may avoid high-intensity workouts, alcohol consumption, and smoking for a few days after vaccination.

AUTHOR CONTRIBUTIONS

Betsy Joseph: Conceptualization; data curation; writing – original draft. **Pradeep Kumar Yadalam:** Data curation; writing – original draft. **Raghavendra Vamsi Anegundi:** Data curation; writing – review and editing.

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COVID-19, management, oral cavity, oral lesions, SARS-CoV-2, vaccine

CONFLICT OF INTEREST

None.

PEER REVIEW

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