

Dental Disease in a Patient Using Buprenorphine Buccal Films

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INTRODUCTION

- Adverse effects of buprenorphine-only oral films on dental health are understudied in the long-term management of patients with chronic pain
- The FDA issued a warning in 2022 about the risk of dental problems in patients using oral buprenorphine formulations, including data from the FDA Adverse Event Reporting System (FAERS) and a meta-analysis on dental problems in “people who use drugs” broadly^{1, 2}
- Most literature focuses on buprenorphine-naloxone and does not differentiate between patients based on medication use and dental history

METHODS

- This case report is devoid of patient identifiers and is IRB exempt per UNC Chapel Hill's Human Research Ethics Policy 2501 on Case Reports

CASE REPORT

- 63-year-old female with chronic pain due to Post-Laminectomy Syndrome presented with oral health concerns
- Using buprenorphine buccal films since January 2020
- Patient reported probable decay of her second right lower molar and gum degeneration in the same region where she places buprenorphine films, visualized by her dentist
- Examination did not reveal notable dental disease, and she endorsed regular oral care
- Clinician recommended oral rinses and/or brushing teeth 30 minutes after film use, as well as follow up with her dentist

MAIN POINTS

- Given the association between adverse dental effects and transmucosal buprenorphine, clinicians may need to suggest oral care modifications
- Clinicians may advise patients about potential adverse dental effects of transmucosal buprenorphine and should consider establishing protocols for routine dental follow-up when prescribing this opioid formulation

DISCUSSION

- Literature on adverse oral effects due to buprenorphine is limited
- There is a known association between decreased oral health and buprenorphine-naloxone use
- 2022 JAMA study examined the link between sublingual buprenorphine-naloxone (SBN) use and dental disease. It compared rates of dental disease in patients taking SBN to those using transdermal buprenorphine or oral naltrexone³
- Adjusted hazard ratios of 1.42 (95% CI, 1.17-1.73) comparing SBN and transdermal buprenorphine and 1.67 (95% CI, 1.41-1.98) comparing SBN and oral naltrexone regarding oral disease occurrence³
- This study is limited by comparing medications used for different disorders without considering oral hygiene differences between groups

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- 2024 FAERS report comprised of 2015—2022 data compared adverse dental outcomes in patients using buprenorphine monotherapy or buprenorphine-naloxone, with sublingual, buccal, or oral administration, to all other drugs⁴
 - Reporting odds ratios (RORs) summarized in the table to the right shows increased odds of adverse dental reaction reporting with transmucosal buprenorphine use, particularly with sublingual administration⁴
 - Literature limitations include minimal reporting on the time between medication initiation and dental disease occurrence and a lack of focus on chronic pain populations

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- 2013 case series of 11 patients using SBN reported an average of 3.8 years before documentation of dental disease but did not clarify the time course for disease onset⁵
 - In this newly-reported case, this potential adverse reaction occurred after 4.5 years of buprenorphine buccal film use



DATA

RORs for Increased Proportion of Adverse Dental Reactions with 95% Confidence Intervals
Buprenorphine Monotherapy
3.09 (2.61-3.66)
Combined Buprenorphine-Naloxone
14.61 (13.34-16.01)
Sublingual administration
20.03 (18.04-22.24)
Buccal administration
4.46 (3.00-6.61)
Sublingual buprenorphine
23.55 (17.84-31.11)
Sublingual Buprenorphine-Naloxone
19.47 (17.39-21.80)

FAERS Report⁴

REFERENCES

[1] Center for Drug Evaluation and Research. (2022). Buprenorphine dissolved in the mouth can cause dental problems. U.S. Food and Drug Administration.

[2] Yazdanian M., Armoon B., Noroozi A., et al. (2020). Dental caries and periodontal disease among people who use drugs: a systematic review and meta-analysis. BMC Oral Health 20, 44. <https://doi.org/10.1186/s12903-020-1010-3>

[3] Etminan M, Rezaeianzadeh R, Kezouh A, Aminzadeh K. (2022). Association Between Sublingual Buprenorphine-Naloxone Exposure and Dental Disease. JAMA. 328(22):2269–2271. doi:10.1001/jama.2022.17485

[4] Woods R. (2024) Dental Disorders Reported to the FDA Adverse Event Reporting System in Association with Buprenorphine: An Analysis by Ingredient Composition and Route of Administration. Curr Drug Saf. 19(2):261-267. doi: 10.2174/1574886318666230731151447.

[5] Suzuki J, Mittal L, Woo S. (2013). Sublingual buprenorphine and dental problems: a case series. Prim Care Companion CNS Disord. 15(5):PCC.13l01533. doi: 10.4088/PCC.13l01533.