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Title **Brief Overview: Benzocaine-Associated Methemoglobinemia in Dental Patients**

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Reference VA Technology Assessment Program Report, February 2006.
www4.va.gov/VATAP/docs/BenzocainMetheoglobinemiaDentalpatients2006tagm.pdf

Aim

To survey the literature on the existence and strength of an association between methemoglobinemia and the use of topical benzocaine in dentistry.

Conclusions and results

The searches yielded 39 citations, of which 9 were retrieved and 7 ultimately abstracted as directly relevant to the review. The 7 citations included 2 substantial case series and 2 case-control studies. The Technology Assessment Program (TAP) concluded that methemoglobinemia is an uncommon event that also can be associated with nitrates. Nitrates are ubiquitous environmental chemicals for which an association of methemoglobinemia with exposure has been more rigorously researched. An association between methemoglobinemia and topical benzocaine as used in dentistry is insufficiently proven for it to be the basis of major clinical policy or formulary change in Veterans Affairs (VA). Although the FDA is aware of adverse events apparently related to benzocaine sprays, it is not planning action to remove the drugs from the market.

Recommendations

The Office of the Assistant Under Secretary of Health for Dentistry recommended that topical benzocaine gel as used in dentistry be omitted from restrictions on benzocaine spray within the Veterans Health Administration (VHA).

Methods

TAP searched MEDLINE and EMBASE from 1951 and 1974, respectively, to February 2006 using search terms for topical benzocaine, adverse reactions, complications, methemo-globinemia, dental, epidemiology, and specific study types such as case-control or cohort, the latter two for the added part of TAP's charge. TAP retrieved full-text articles for any English-language citations apparently relevant to a clinical dental setting (oral administration of topical benzocaine), published in dental journals, or contributing to the evidence for an association, along with relevant citations in the reference lists from initially retrieved articles. TAP applied an analytic framework that documented the existence and strength of an association between exposure and disease.

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