combined with retinoic acid 0.05%, nutritional supplements, antimycotics, sex hormones, and zinc sulfate 110 mg/day for 30 days.

None of the treatments had sufficient high-quality support to be recommended as the best course of action for managing BMG.

DISCUSSION

The study did not identify the best course of treatment for BMG. Some of the major characteristics of BMG, specifically intermittent worsening and remission, make treatment challenging. Recurrent lesions commonly affect new areas, producing a migratory pattern. Epithelial proliferation at one site combined with exfoliation at another produces the map-like appearance of the disorder. Lesions can change location, intensity, and appearance in minutes to hours. In addition, the etiology of BMG is not well established, with some connections with several systemic disorders and a possible hereditary component, with patients often having a positive family history. Further study is needed.

Clinical Significance

There is no scientifically proven treatment for symptomatic BMG at the present, so clinicians will need to use the available evidence to formulate an appropriate approach for each patient. Although none of the treatments reported can be recommended, they may offer a starting point for further research into the characteristics and treatment of BMG.

Gushiken de Campos W, Esteves CV, Fernandes LG, et al: Treatment of symptomatic benign migratory glossitis: A systematic review. *Clin Oral Invest* 22:2487-2493, 2018

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ORAL PATHOLOGY

Effect of crack cocaine use on oral and cellular lesions

BACKGROUND

Systemic problems are more likely to occur in persons who use psychoactive substances, especially crack cocaine, so it's plausible to expect these individuals to also experience changes in the oral mucosa. This expectation is based on the local effects related to the heat of the smoke, harmful effects related to the chemicals in the drug, tissue necrosis caused by friction over the gingiva, insufficient blood supply caused by vasoconstriction, and diminished salivary flow as well as harmful effects on the immune response. An investigation was done to evaluate the occurrence of oral lesions and micronuclei in crack cocaine users.

METHODS

One hundred six crack users and 106 non-users matched for age, sex, and tobacco use participated in this cross-sectional study. The evaluation included sociodemographic characteristics, use of psychoactive substances, and the occurrence of fundamental oral lesions, specifically, spots, plaques, nodules, papules, vesicles, blisters, erosions, ulcers, fissures, pseudomembranes, and hyperplastic lesions. A careful examination of the oral mucosa was undertaken and any lesions were documented and photographed. Oral mucosa cells were collected to detect micronuclei (MN) exhibiting abnormalities.

RESULTS

Characteristics of Participants

Participants ranged in age from 13 to 46 years, and most were smokers and white, had 8 years or less of education, and had a household income 1.4 times the monthly minimum wage or less. The crack users reported taking the drug for a mean of 5 years and consumed a mean of 24.4 rocks daily. All used smoking to deliver the drug. Users reported using marijuana, cocaine, solvents, and other street drugs previously or concurrently with crack cocaine use.

Oral Lesion Analysis

Fundamental oral lesions were found in 27.4% of the crack users and 10.4% of the non-users. Users were also more likely to have 2 lesions than non-users. The lesion types found most often were spot/plaque, ulcer/fissure, papule/nodule, erosion/sulcus, and vesicle/blister (Fig 2). In 37.9% of crack users, lesions were found on the floor of the mouth/palate/alveolar ridge; in 31% the lesions were on the buccal mucosa. Non-users were more likely to have lesions on the labial commissure and lip (50% of cases). Only crack users had tongue lesions, and buccal lesions in crack users showed an association with the duration of drug use.

Oral lesions were more likely among crack users than in non-users. Adjusting for sociodemographic and behavioral variables, the

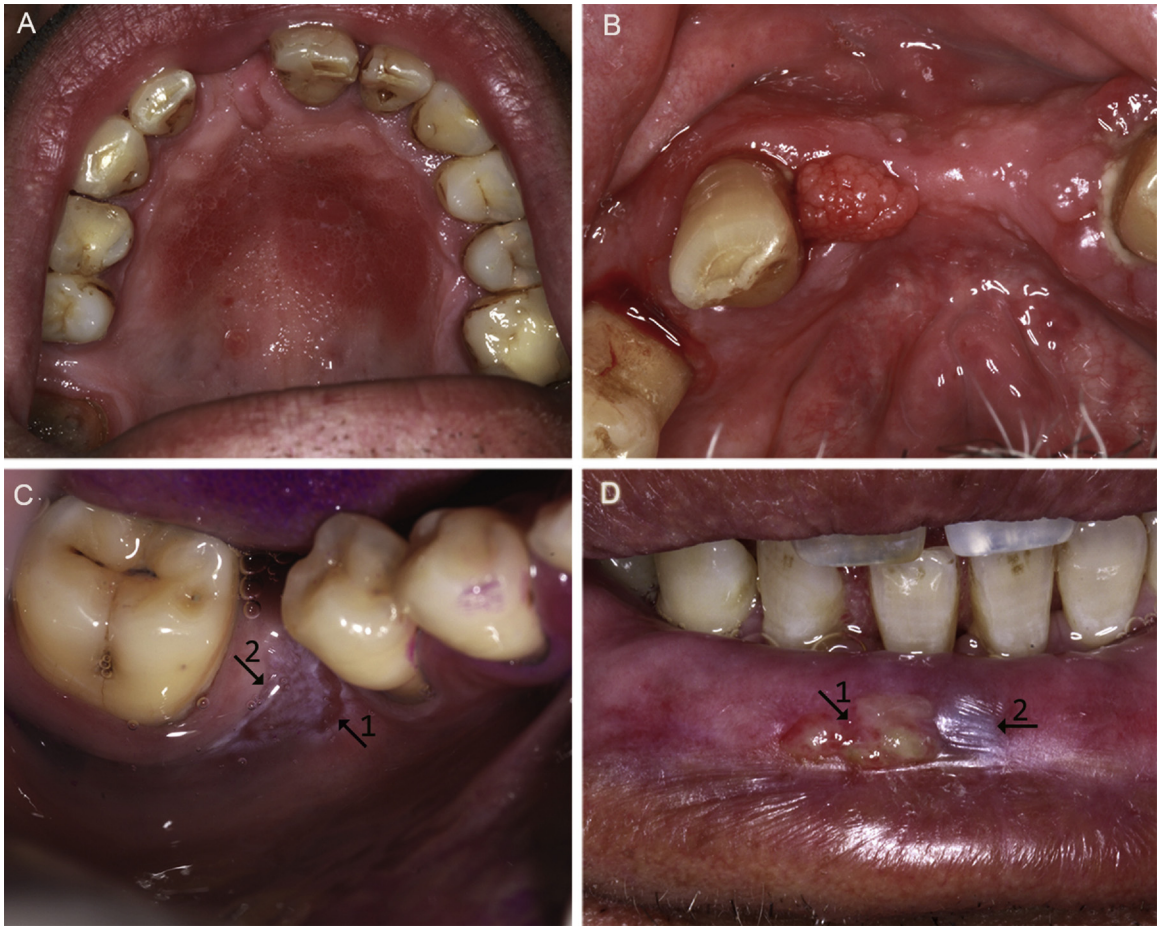

Figure 2. Oral lesions in crack users: **A,** Erythematous spot; **B,** sessile nodule with a lobulated surface; **C,** spot with erythroplastic *(1)* and leukoplastic areas *(2);* **D,** ulcer *(1)* and spot *(2)*. (Courtesy of Antoniazzi RP, Lago FB, Jardim LC, et al: Impact of crack cocaine use on the occurrence of oral lesions and micronuclei. *Int J Oral Maxillofac Surg* 47:888-895, 2018.)

analysis showed an occurrence of oral lesions 2.02-fold higher in crack users than among non-users. Clinical factors were incorporated into the analysis and yielded an effect measure of 1.92. This analysis suggested that the impact of crack on lesion occurrence was partly mediated by tooth loss, gingivitis, and dental trauma.

Oral Cell Changes

The mean number of MN per 1000 cells was significantly higher among crack users than among those not using crack cocaine. Evaluation showed that karyolysis and karyorrhexis were also significantly higher among the crack users. Broken egg abnormalities were found in equal numbers between the two. Statistical analysis showed the mean number of MN was 3.54-fold higher in crack users than non-users when sociodemographic and behavioral variables were adjusted for and 3.85-fold higher in crack users when clinical variables were adjusted for.

DISCUSSION

Crack use was independently associated with a higher occurrence of fundamental lesions in the oral mucosa and the micronuclei. The MN increase indicates that the epithelial cells are experiencing chromosome damage.

Clinical Significance

An increased frequency of cellular markers such as MN and the occurrence of fundamental lesions may provide a way to monitor populations that are exposed to crack cocaine use. In addition, these findings can contribute to the development of more effective health care regimens for individuals who use street drugs.

Antoniazzi RP, Lago FB, Jardim LC, et al: Impact of crack cocaine use on the occurrence of oral lesions and micronuclei. *Int J Oral Maxillofac Surg* 47:888-895, 2018

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