Clinical Significance

The drinks not only would prove hazardous to users' oral health but to their overall well-being. Drinking them would likely increase the risk of unwanted weight gain, which brings a wealth of problems with it. The oral health risks of such drinks should be pointed out to patients as part of the dental screening process, since these drinks are often consumed as part of what people view as a healthy lifestyle. Legislation may be needed to ensure that caffeine per serving is limited to a healthier level. Regulation may also be required to keep these drinks out of the hands of children and adolescents and to make everyone aware of the dangers that they pose.

content. Other stimulants were also present, including guarana extract and ginseng root extract. The remainder of the ingredients fell into several categories: preservatives, acidity regulators, vitamins, and colors.

DISCUSSION

The sugar content of all the energy drinks evaluated was more than present maximum dietary recommendations. In addition, the acidic content of the drinks was considerably lower than the critical 5.5 pH level where enamel is eroded or dissolved. These drinks offered clear danger to the oral health of those who drink them.

Clapp O, Morgan MZ, Fairchild RM: The top five selling UK energy drinks: Implications for dental and general health. *Br Dent J* 226:493-497, 2019

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FACIAL EMPHYSEMA

Rare complication of routine dental procedure

BACKGROUND

In subcutaneous facial emphysema (SFE), air is introduced subcutaneously into the fascial planes and soft tissues, causing distension of the skin or mucosa over an area. Although rare, in dentistry the problem is often associated with the air-driven dental handpiece, which is the reported cause in 50% of incidents. SFE occurs most often after dental extraction, especially of the lower third molars, but other dental procedures can also be associated, including crown preparation, implant procedures, and endodontic and restorative treatment. A case was associated with a routine Class V restoration.

CASE REPORT

Woman, 59, who was otherwise healthy, came for Class V restorations of the buccal surfaces of the lower right permanent first molar (46) and lower right permanent first premolar (44). Although she was diagnosed with multiple sclerosis 13 years previously, she currently did not take any immunosuppressants or exhibit reduced quality of life. Her oral hygiene and periodontal health were good, with just noncarious tooth loss on a few buccocervical surfaces.

An inferior alveolar nerve block (IANB) was done to relieve the buccal gingival tissues for retraction cord placement. Minimal preparation of the dentin on the buccocervical abrasion lesions was performed. Lesions were restored after conditioning with 20% polyacrylic acid and placement of a resin-modified glass ionomer cement. Retraction cords were removed, and the restoration was polished using a diamond flame bur in an air-driven high-speed handpiece.

Bubbles were seen extruding from the gingival sulcus, and the patient was unable to open her right eye. She had ipsilateral facial swelling in the periorbital, buccal, and submandibular areas but only general discomfort and tightness in the affected area. No chest tightness, shortness of breath, dyspnea, or nausea was present. Palpation elicited the information that the swelling was fluctuant with a crackling sensation but no tenderness.

After 30 minutes, the patient was referred to the emergency department for assessment. Vital signs were stable, and heart rate, blood pressure, and blood oxygen saturation levels were within normal limits. She was referred to the outpatient clinic since life-threatening concerns were absent.

After examination she was diagnosed with subcutaneous facial emphysema based on her clinical history and presentation. No imaging was required. After visual acuity tests were normal, she was discharged from hospital care. She was able to open her right eye partially.

One day postoperatively, the facial swelling had partially resolved but returned with increased erythema, especially in the periorbital region (Figure 1). The patient's primary complaint was

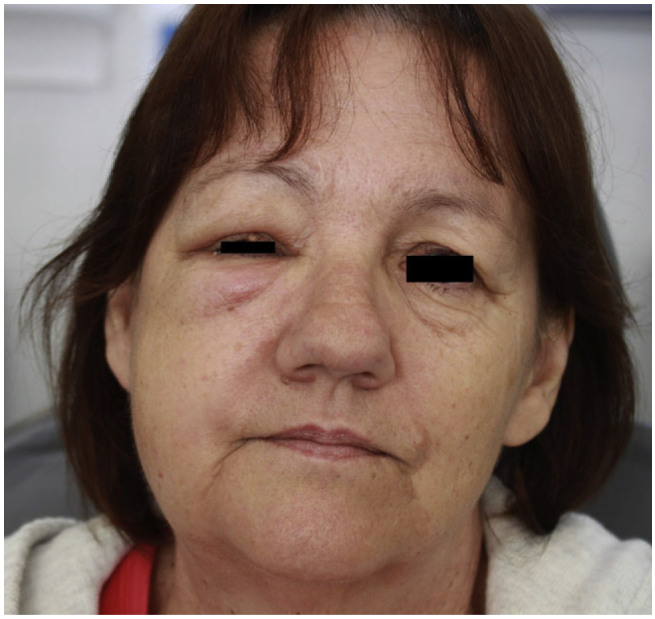

Figure 1. Shows unilateral facial swelling in the buccal, periorbital and submandibular spaces with the inability to open the right eye at 1-day postoperative review. There is marked erythema in this region. (Courtesy of Chien PY-H: Iatrogenic subcutaneous facial emphysema secondary to a Class V dental restoration: A case report. *Austral Dent J* 64:43-46, 2019.)

difficulty sleeping. Intraoral examination showed minor trauma at the buccal gingiva of tooth 44. An iatrogenic postoperative periodontal probing depth of 8.5 mm was demonstrated. A size #35 gutta-percha point was inserted into the gingival sulcus and a periapical radiograph taken to follow the pathway of air entry (Figure 3). The patient was then prescribed Augmentin Duo Forte tablets at 875 mg amoxicillin and 125 mg clavulanic acid twice daily for 5 days to provide antibiotic prophylaxis.

Five days postoperatively, the SFE had completely resolved. The gingival tissue around tooth 44 had reattached, with a reduction in periodontal probing depth of 3 mm. The patient was instructed to complete the course of antibiotics and discharged.

DISCUSSION

Although SFE is a rare complication after routine dental restorations, it's important to consider the possibility so that a proper diagnosis can be made and a clear management plan can be formulated. Careful observation for any airway compromise is critical. Prevention of SFE could have been achieved by using a smaller cord, performing more judicious or careful packing of the cord, using polytetrafluororethylene tape instead of rope, or using rubber dam isolation to provide a preventive physical barrier. It also is recommended that the use of air-driven handpieces or syringes be kept away from the gingival sulcus as much as is reasonably possible.

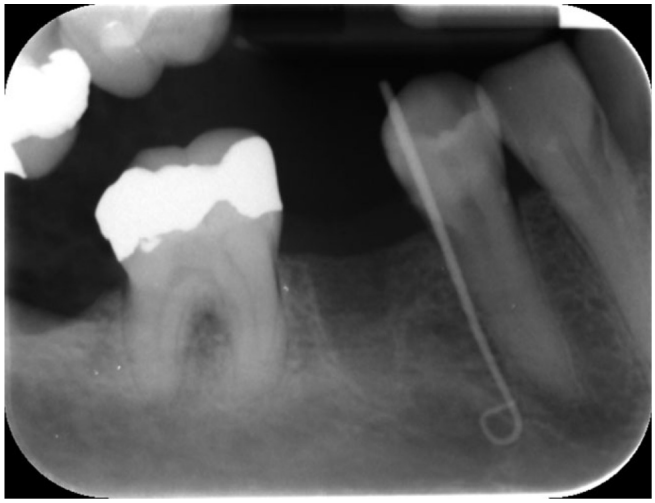

Figure 3. Is a periapical radiograph showing a size #35 gutta-percha (GP) point that indicates the passage of air. Of note is the deviation away from the periodontal ligament space, suggesting an absence of true periodontal disease. (Courtesy of Chien PY-H: Iatrogenic subcutaneous facial emphysema secondary to a Class V dental restoration: A case report. *Austral Dent J* 64:43-46, 2019.)

Clinical Significance

SFE resulted in this case when air was forced into the tissue fascia via the gingival sulcus with the use of the air-driven handpiece. The retraction cord likely facilitated the problems by displacing subdermal tissues at the base of the gingival sulcus away from the periosteum. SFE is among the differential diagnoses with the specific presentation, but the presence of a crackling or bubbly popping sensation when the swelling is palpated is pathognomonic for SFE.

Chien PY-H: Iatrogenic subcutaneous facial emphysema secondary to a Class V dental restoration: A case report. *Austral Dent J* 64:43-46, 2019

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