Dental Traumatology

Dental Traumatology 2008; **24**: 685–686; doi: 10.1111/j.1600-9657.2008.00671.x

Tooth injury by chewing a soft drink can's ring: a case report

CASE REPORT

Yehuda Zadik

Zrifin Central Dental Clinic, Center for Health Promotion and Preventive Medicine, Medical Corps, Israel Defense Forces, Jerusalem, Israel

Correspondence to: Dr Y. Zadik, 16 Shlomo Zemach Street, 96190 Jerusalem, Israel
Tel.: +972 52 2385675
Fax: +972 77 7176161
e-mail: yzadik@gmail.com

Accepted 31 October, 2007

Abstract – This article describes a 28-year-old male patient's habit of chewing the aluminum ring of soft drink cans, with harmful consequences: broken cusp, dental attrition and craze lines. Although the reported dental damage is similar to that seen in oral piercing and wearing metal ornaments, the reported habit was unknown to the dental team in the 10 years preceding the event of cusp breakage. Dental practitioners should ask patients about their lifestyles and habits before occurence of such a complication, which has potential to affect oral integrity.

Carbonated soft drinks are currently quite popular, especially among adolescents and young adults (1), with harmful consequences owing to dental erosion (2) and elevated caries risk (3). In addition, several cases of intra-oral traumatic damage caused by soft drink cans were reported in the literature. For example, Siegel et al. (4) and Bank et al. (5) reported cases of young girls' tongue becoming entrapped in aluminum soft drink cans while drinking, causing ischemia to the tongue tissue.

This article describes a dental trauma caused by a habit involving a soft drink can.

Case report

A 28-year-old patient was presented to the dental emergency service at our institute for 'fracture of his tooth' the day before his arrival. He was a non-smoking healthy adult, who served as an officer in an elite commando unit.

Intra-oral examination revealed a chipping of the enamel layer, with dentin exposure, of the buccal cusp of the left first upper premolar. Attrition signs and vertical craze lines were observed in his whole dentition (Fig. 1). Otherwise, the patient was considered to have low caries activity.

According to the patient, the tooth was damaged while chewing an aluminum ring, which is pulled to open a soft drink can (Fig. 2). This daily habit was maintained by the patient for at least 10 years before the event.

The patient was informed of the potential consequences of maintaining the habit. However, he refused to cease the habit, thus a composite resin restoration could not be done. Duraphat (Colgate-Palmolive Co.,

Fig. 1. Chipping of the enamel layer of the buccal cusp of the left first upper premolar, attrition and craze lines.

Fig. 2. Demonstration of the damaging habit. The can's ring is chewed and bent. The patient refused to cease the habit despite the cusp fracture.

Morristown, NJ, USA) was locally applied over the dentin exposure site.

Discussion

This report describes a case where the patient habitually chewed an aluminum ring with the consequence of enamel chipping. Although there is no doubt that the enamel chipping was caused by his habit, there is no guarantee that this habit also caused the extensive teeth attrition and the presence of craze lines. In a previous report, our group reported the high prevalence of teeth attrition in a group of military aircrews as well as officers of commando units. The teeth attrition was associated with work-related stress and coping strategies (6).

Unfortunately, this patient refused to cease his habit despite the event. However, it is not unusual for patients to refuse to cease a damaging oral habit even after a complication has occurred (7–9).

Dental fracture, enamel chipping, and dental attrition are well documented complications of intra-oral metal ornament wearing (10, 11). Brennan et al. describe a case of multiple dental chipping and fractures caused by 1 year of metal tongue ornament flicking (12). The reported habit was unknown to the dental team in the 10 years preceding the injury. In cases of oral piercing/ornaments, even if the ornament is removed, the clinician can see the piercing site in the soft tissue.

This case adds to the growing number of cases in the literature about oral complications involving unhealthy habits and lifestyles. Dental surgeons and hygienists should be familiar with the harmful consequences of their patients' habits. The dental team should, as a routine, ask their patients about their lifestyle and habits that can influence oral integrity preferably *before* such a complication occurred. Moreover, the dental team is responsible for educating patients about these conditions and recommending to them appropriate preventive measures.

Acknowledgements

The author would like to thank Steve Manch, Rehovot, Israel for editorial assistance.

References

1. French SA, Lin BH, Guthrie JF. National trends in soft drink consumption among children and adolescents age 6 to 17 years: prevalence, amounts, and sources, 1977/1978 to 1994/1998. J Am Diet Assoc 2003;103:1326–31.
2. Jensdottir T, Holbrook P, Nauntofte B, Buchwald C, Bardow A. Immediate erosive potential of cola drinks and orange juices. J Dent Res 2006;85:226–30.
3. Shenkin JD, Heller KE, Warren JJ, Marshall TA. Soft drink consumption and caries risk in children and adolescents. Gen Dent 2003;51:30–6.
4. Siegel RL, Speiser AM, Bikofsky VM. Tongue ischemia from a soft-drink can: report of case. J Am Dent Assoc 1990;121:607–8.
5. Bank DE, Diaz L, Behrman DA, Delaney J, Bizzocco S. Tongue entrapment in an aluminum juice can. Pediatr Emerg Care 2004;20:242–3.
6. Lurie O, Zadik Y, Einy S, Tarrasch R, Raviv G, Goldstein L. Bruxism in military pilots and non-pilots: tooth wear and psychological stress. Aviat Space Environ Med 2007;78:137–9.
7. Zadik Y, Becker T, Levin L. Intra-oral and peri-oral piercing. J Ir Dent Assoc 2007;24:29–34.
8. Zadik Y, Sandler V. Periodontal attachment loss due to applying force by tongue piercing. J Calif Dent Assoc 2007;35:551–3.
9. Bechor R, Zadik Y. An unusual lateral luxation of an upper-incisor owing to long-term boxing without protection. Dent Traumatol 2008; in press.
10. Levin L, Zadik Y, Becker T. Oral and dental complications of intra-oral piercing. Dent Traumatol 2005;21:341–3.
11. Levin L, Zadik Y. Oral piercing: Complications and side effects. Am J Dent 2007;20:340–4.
12. Brennan M, O'Connell B, O'Sullivan M. Multiple dental fractures following tongue barbell placement: a case report. Dent Traumatol 2006;22:41–3.