Current PSYCHIATRY

Compulsive bruxism: How to protect your patients' teeth

STAFF ILLUSTRATION FOR CURRENT PSYCHIATRY

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Screen for destructive oral habits tied to anxiety disorders and SSRIs

Oral habits such as bruxism—compulsive grinding or clenching of the teeth—can be a manifestation of obsessive-compulsive disorder (OCD) and other anxiety disorders.[1] Bruxism also may be a side effect of selective serotonin reuptake inhibitors (SSRIs)[2,3] used to treat OCD[4] and depression. Other oral conditions can complicate treatment of these disorders (***Table 1***).

Potentially serious sequelae of bruxism and similar behaviors include:

- wearing down of teeth (more common)
- necrosis of the pulpal tissues that results in non-vital teeth (less common).

The following case underlines the need for early referral to a dentist and close follow-up for patients who have tooth-related behaviors or are taking medications associated with a risk for such behaviors.

CASE REPORT

A compulsive oral habit

Mr. G, age 26, presents to our school of dental medicine with the chief complaint that he needs a crown. On clinical intraoral examination, we find he has multiple restorations, some areas of recurrent tooth decay, and a fractured cusp on a maxillary molar. His mandibular incisors show greater wear on their incisal surfaces than would be expected for a patient his age. This is especially true of his mandibular right lateral incisor (tooth #26) and canine (tooth #27) (***Photo 1***).

Clinical examination also reveals a restoration on tooth #26 that was consistent with an access cavity drilled for

endodontic (root canal) therapy (*Photo 2*). This finding is consistent with his dental history. Soft tissue examination is within normal limits. He reports that he saw a dentist 7 months earlier but could not afford the fees.

During his medical history, Mr. G states he has mild Tourette's syndrome that was diagnosed when he was 10. In the early 1990s he tried several medications, including haloperidol and pimozide, as a subject in research studies of Tourette's. He could not recall the dosages of the medications or for how long he took them. Because these medications did not improve his symptoms, he stopped taking them after the studies ended.

Mr. G reports that when he was in second grade, a psychiatrist diagnosed him with OCD, and has received treatment since then. We observe that while Mr. G is seated, he continually raises his right arm above his head and rubs his fingers together. He reports and demonstrates numerous other compulsive rituals, including head movements and rubbing his elbows against his side. His right elbow has a large scab.

He has been taking sertraline, 150 mg/d, for the past month. He says his psychiatrist prescribed this medication to help him break out of what he describes as episodes where he "gets into a mental loop." Sertraline has improved Mr. G's symptoms but they have not resolved.

He further reports that he has begun to "grind" his anterior teeth. Technically, he does not engage in grinding or bruxing; he has a habit of pushing his mandible forward so that his mandibular (lower) teeth are anterior to the maxillary (top) teeth, then forcefully pulling his mandible back so that the lingual (back) surfaces of the mandibular incisors push up against the buccal (outside) surfaces of the maxillary incisors (*Photo 3, page 32*). He states that he engaged in this habit frequently from approximately age 19 to 22. When Mr. G was 22, his dentist reduced the height of tooth #23, which Mr. G says he used "to set things in motion." The dentist's maneuver cut down but did not eliminate Mr. G's habit.

Mr. G had not complained of nor had any clinician asked him about his bruxism-like behavior. He noted that the oral habit began prior to sertraline treatment,

Table 1

Oral conditions associated with anxiety disorders and depression

Bruxism
Canker sores
Dry mouth
Temporomandibular joint disorders
Lichen planus (redness or mouth ulcers)
Non-vital teeth
Tooth wear, fracture

Photo 1

Unexpected tooth wear: A clue to an anxiety-related oral habit

Teeth of a 26-year-old man show greater than expected wear, particularly on the mandibular right lateral incisor (tooth #26) and canine (tooth #27).

Photo 2

Radiographic evidence of tooth non-vitality

Radiolucencies (dark areas) in the bone at the apices of the tooth roots are a radiographic sign of non-vitality. Tooth #26 has undergone root canal.

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Clinical Point

Bruxism can cause tooth wear and, rarely, necrosis of the pulpal tissues that results in non-vital teeth

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thus suggesting no relationship between the medication and the behavior. Interestingly, although some studies have reported bruxism as a side effect of SSRIs,[2,3] at least 1 case report found that SSRIs reduced nocturnal bruxism.[12]

As part of Mr. G's dental examination, we take a full series of intraoral radiographs. These reveal radiolucencies at the apices of teeth #23 through #26 (***Photo 2, page 25***). The films also show root canal therapy on tooth #26.

Differential diagnosis for lesions in the periapical region of the mandibular incisors includes periapical cemental dysplasia (PCD), which typically is found in middle-aged African-American females,[5] and lesions resulting from non-vitality of the teeth. Histopathologically, lesions resulting from the latter include an apical abscess, cyst, or granuloma.

As is customary when periapical lesions are noted, we test the vitality of the affected teeth. None of the affected teeth responded to cold or electric pulp testing, which indicated they were non-vital. Tooth vitality is not affected in PCD, which allowed us to exclude this condition.

Non-vital teeth indicate that the pulpal tissue is necrotic. Most commonly, non-vitality occurs when decay has penetrated the pulp chamber or as a complication of physical trauma. No decay was present on Mr. G's mandibular anterior teeth and he denied a history of trauma such as a blow to the teeth. This left his oral habit as the likely cause of non-vitality.

Treatment for a non-vital tooth is a root canal, which had been done on tooth #26. We successfully performed root canal on Mr. G's other non-vital teeth. We informed the patient of reason for his non-vital teeth, and made a protective occlusal guard to try to prevent additional trauma to the affected teeth.

Recognizing oral habits

Restoration of worn teeth, particularly those of the mandibular anterior, is technically difficult and—depending on the nature of the restoration—quite expensive. Endodontic therapy is more successful in teeth without periapical disease.[6] Thus, preventing tooth-related problems in patients who grind their teeth or engage in other destructive dental behaviors is important.

As this case illustrates, teeth can become non-vital without clinical evidence of tooth wear; clinical evidence may be subtle or nonexistent (note teeth #23, #24, and #25 in ***Photo 2, page 25***). Absence of tooth wear is not a reliable sign of tooth vitality. Mild to moderate tooth wear usually goes unnoticed by patients and clinicians.[7]

Patients with bruxism may complain of masticatory muscle soreness or increased wear of the teeth.[7] In extreme cases, they may self-extract teeth as a result of bruxism.[8]

Screen patients who have anxiety disorders or depression for signs of bruxism or related behaviors (***Table 2***). If you detect signs of bruxism or related behavior, refer the patient to a dentist. Ask the dentist to look for signs of wear and perform vitality testing of teeth on a regular basis (twice a year is reasonable). Any signs of changes in pulp vitality should be followed up with intraoral periapical radiographs, which these patients might need more frequently than FDA guidelines recommend.[9]

An occlusal guard may provide the most definitive tooth protection for patients who engage in bruxism or similar behaviors. Occlusal guards are made of material that is softer than enamel, so the patient will wear away the guard rather than tooth structure. When the guard is worn away, the patient needs a new one.

Pharmacologic strategies for bruxism or related oral habits involving the teeth are

Table 2

Screening for bruxism: 3 questions for patients

1. Do you have pain or discomfort in the jaw or facial muscles, headaches or earaches, or increased tooth sensitivity?
2. Have you noticed changes in the way your teeth fit together or wearing down of your teeth?
3. Has your sleeping partner noticed any noise at night that might be the result of teeth grinding?

Clinical Point

Screen patients for bruxism by asking about facial or jaw pain, headaches or earaches, and increased tooth sensitivity

Compulsive bruxism

Related Resource

- American Dental Association. www.ada.org.

Drug Brand Names

Clonazepam • Klonopin
Haloperidol • Haldol
Pimozide • Orap
Sertraline • Zoloft
Tiagabine • Gabitril

Disclosure

The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.

Clinical Point

An occlusal guard can protect the teeth of a patient who engages in bruxism or similar behaviors

Photo 3

Obsessive-compulsive disorder manifested in Mr. G's oral habit

Starting with his mandible pushed forward so that his mandibular (lower) teeth were anterior to the maxillary (upper) teeth, the patient would forcefully pull his mandible back so that the lingual (back) surfaces of the mandibular incisors pushed against the buccal (outside) surfaces of the maxillary incisors.

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not well developed. One short-term, placebo-controlled trial for acute treatment in 10 drug-free patients with sleep bruxism consisted of a predrug night, a placebo night, and a clonazepam night. Clonazepam, 1 mg 30 minutes before bedtime, significantly improved bruxism and sleep quality as determined by objective and subjective measures.[10]

Kast[11] reported 4 cases in which tiagabine suppressed nocturnal bruxism, trismus, and consequent morning pain in the teeth, masticatory musculature, jaw, and temporomandibular joint areas. This gamma-aminobutyric acid reuptake inhibitor anticonvulsant approved for treating partial seizures was dosed at 4 to 8 mg at bedtime. These dosages are lower than those used to treat seizures.

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Bottom Line

Bruxism—compulsive grinding or clenching of the teeth—can result from obsessive-compulsive disorder, other anxiety disorders, depression, or perhaps selective serotonin reuptake inhibitors (SSRIs). Ask patients who have these conditions or who take SSRIs about bruxism and other oral habits involving the teeth, and refer those who engage in such behaviors to a dentist.