

Nail-biting and foreign body embedment: a review and case report

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Introduction

Reports of foreign bodies in the oronasal complex have included bullets, impression materials, teeth, fish bones, needles, plastics, pistachio nuts, earrings, and the traumatic implantation of a toothbrush.¹⁻⁴ These foreign bodies have been found by palpation, direct visualization, or as incidental findings on radiographs. A thorough history may establish an etiology and time frame in which the foreign body was embedded in soft tissue.

A chronic oral habit can introduce foreign bodies into the oral cavity. Most pernicious oral habits such as dummy or digit sucking, lip and cheek biting, and tongue thrusting are associated with oral complications, but do not involve foreign bodies. This unique case history describes the introduction of a foreign body in association with habitual fingernail biting.

Literature review

Habitual nail-biting (onychophagia) is widespread among children, beginning as early as 4 years and peaking typically between 10 and 18 years.⁵ Prevalence estimates are dated, but range from 30%⁶ during childhood to nearly 45% in adolescence.⁷ Onychophagia appears to be familial and occurs slightly more often in females.⁸ It is a repetitive, undesirable behavior often assumed to be a sign of emotional tension or anxiety in children,⁹ a conclusion drawn from observations that stress often precipitates specific occasions of nail-biting.¹⁰ However, little evidence supports that children who bite their nails are generally more anxious than those who do not.¹¹ While onychophagia has characteristics similar to those of obsessive-compulsive disorder (OCD), it has never been considered a symptom or reported as co-occurring with OCD. Indeed, recent studies suggest that even the most severe forms of nail-biting occur in the absence of major psychopathological disorders.¹² Nail-biting is more likely a disorder of excessive grooming.¹³ This etiologic perspective suggests that the biological system mediates complex repetitive behaviors like nail-biting that may at one time have had evolutionary adaptive significance.

Most habitual nail-biting is considered trivial, but it can cause medical and dental problems. In addition to recurrent paronychia and chronic subungual infection, severe nail-biting has been associated with craniomandibular dysfunction,¹⁴ small fractures at the

edges of the incisors, gingivitis,¹⁰ idiopathic tooth apical root resorption,¹⁵ and orthodontic complications.¹⁶ In addition, problematic variations have been noted including biting the cuticles and the surrounding skin, tearing at the nails, lip and cheek biting, and chronic thumb-sucking. This case describes damage to the periodontal tissues as a result of inserting torn fingernails into the gingival sulcus.

Case report

A 6-year, 10-month-old white male was examined at the University of Nebraska Department of Pediatric Dentistry during a well patient visit. His medical history included several ear infections, myringotomy, and tube placement. His past dental history included a habit of biting and sucking on a mucocele and concomitant biting of the fingernails. A hard tissue examination revealed an early mixed dentition with buccal carious lesions in the mandibular first permanent molars. A soft tissue examination revealed an asymptomatic aphthous ulcer on the mandibular left buccal mucosa, a mucocele on the left mandibular lip mucosa, and eruption gingivitis associated with the newly erupted maxillary permanent central incisors.

Following his initial examination, prophylaxis, and topical fluoride application, appointments were scheduled for mucocele excision, sealants, and restorative care. An excisional biopsy was accomplished and the clinical impression of mucocele confirmed by histo-



Fig 1. Pretreatment tissue condition.

logical study. The parent was counseled on minimizing the patient's nail-biting habit during the healing period to optimize wound healing.

When the patient returned for dental treatment, his mother expressed concern regarding a localized swelling overlying the erupting maxillary right permanent central incisor without other soft tissue involvement or a history of trauma (Fig 1). A radiographic examination of the affected area was unremarkable, but clinical examination showed a purulent exudate and a 10-mm periodontal pocket in the buccal surface of the maxillary right permanent central incisor. The tooth was not significantly sensitive to percussion, but was tender to buccal probing and palpation. The lingual surface of the tooth revealed normal probing depths. A foreign body was suspected as the etiology of the localized swelling and periodontal defect.

The tooth and the soft tissues were anesthetized and a curette was utilized to probe and remove any foreign body or sulcular debris. After complete curette debridement and irrigation of the sulcus with sterile water, 15 fingernail fragments were found in the buccal gingival sulcus (Figs 2 and 3). A gauze pressure pack was placed and the patient was dismissed to his mother with instructions to eliminate the nail-biting habit. Referral to the UNMC Department of Psychology was suggested should further intervention be necessary.

The patient's operative dentistry was completed without complication and healing of the periodontal pocket was uneventful (Fig 4).

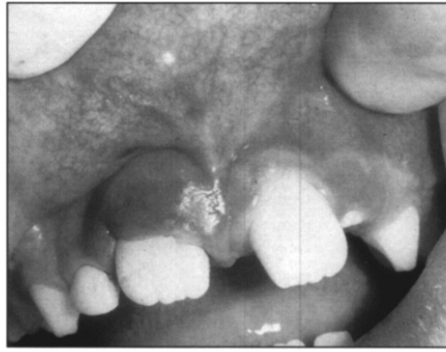


Fig 2. Post-treatment tissue condition.

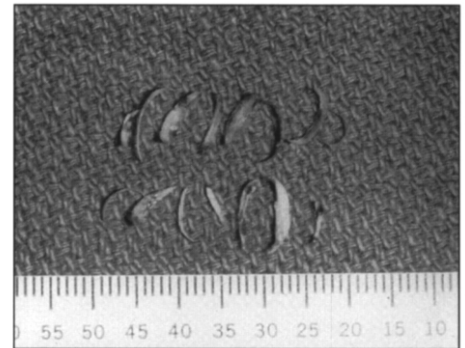


Fig 3. Fingernails removed from the maxillary right permanent central incisor gingival sulcus.

Discussion

Foreign bodies in the soft tissues of the oral cavity have been reported previously, but this appears to be the first case of fingernail fragments embedded in the oral soft tissues.¹ A habit such as nail-biting does not immediately predict the presence of oral soft tissue foreign bodies, but one that repeatedly introduces foreign bodies into the oral cavity is a concern and makes a careful history and examination important.

The patient's nail-biting and embedding habit seemed to intensify following removal of the mucocele, which had been habitually traumatized by a lip-biting habit. In retrospect, what had been initially diagnosed as gingivitis associated with the eruption of the maxillary right and left permanent central incisors was most likely the initial sign of trauma from the nail-biting habit.

Typically, a thorough history and examination will provide the necessary information to diagnose a chronic habit like nail-biting or lip-biting. The patient denied knowledge of placing fingernails into the gingival sulcus. Consequently, a complete history of oral habits should involve careful questioning of the parents to confirm a child's negative habit history.

Nail-biting is a common, generally harmless child behavior that is self limiting and typically does not require intervention. Whether to treat nail-biting should be determined by risk potential, and the dentist can play an important role in identifying dental complications and risk. One risk, described in this report, involves the embedding of torn fingernails into the gingival sulcus of a tooth. A complete history of oral habits should involve careful questioning of the parents, since children are often unaware of their nail-biting or reluctant to admit to the habit.

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Fig 4. One month post-treatment soft tissue condition.

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Physicians' euthanasia survey shows wide variation of opinions

Almost 28% of physicians responding to a survey said they would be willing to perform euthanasia if it were legalized, according to an article in a recent issue of the AMA's *Archives of Internal Medicine*.

Robyn S. Shapiro, JD, and colleagues at the Medical College of Wisconsin, Milwaukee, conducted a survey that was returned by 740 physicians, a response rate of 33%. The survey of Wisconsin internists, family practitioners, and geriatricians asked for responses to hypothetical situations in which patients requested euthanasia; physicians' general opinions about euthanasia and its legalization; and demographic information.

"We found that physicians felt more comfortable with euthanasia requests from nondecisional, nonterminal patients who had left advance directives than they did with requests from decisional patients suffering from grave illnesses or injuries, or from decisional patients who had early signs of a progressive but nonlethal neurologic disease," the researchers write.

Approximately 84% of the respondents were male, most (55.1%) were between 35 and 50 years old, and the mean number of respondents' years in practice was 15.8. Of the respondents, 39.7% were Protestant, 27.7% were Catholic, 5.8% were Jewish, and 3.5% were Christian fundamentalists.

About 42.3% of all respondents agreed or strongly agreed with the statement: "Euthanasia should be limited to competent adults who request it as a result of their present situation and prognosis for recovery." Those unwilling to perform euthanasia at any stage, as well as Christian fundamentalists and Catholics were more likely than others to indicate a higher level of disagreement. Approximately 29.7% agreed or strongly agreed with the statement: "Euthanasia should be limited to competent adults who have a limited life expectancy (e.g. six months)." The same groups were more likely than others to disagree with the statement.

About 67.2% strongly disagreed with the statement: "There is no difference between euthanasia and the withholding of life-sustaining treatment, since they have the same effect." Physicians unwilling to perform euthanasia in the case studies were more likely to perceive a greater difference between euthanasia and the withholding of life-sustaining treatment. In response to the statement: "If euthanasia were legalized, physicians, not others, should perform it for patients," 40.4% tended to favor nonphysician performance of euthanasia. Of the respondents, 27.8% said that they would be willing to perform euthanasia if it were legalized.

Responses indicated that 231 physicians (35.2%) had been asked to perform euthanasia one or two times, 98 had been asked three to 10 times, and 28 had been asked more than 10 times. Sixteen respondents (2.2%) indicated that they had performed euthanasia in the past. Eight of those said they felt humanitarian, three said they felt satisfied, two said they felt relieved, and two said they felt either depressed or scared immediately afterward.