

# Gingival Injury Due To Habitual Fingernail Scratching

## TIRNAK İLE KAZIMA ALIŞKANLIĞINA BAĞLI OLUŞMUŞ DİŞETİ YARALANMASI

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### Abstract

**Objective:** Self-inflicted gingival injuries have been accepted to occur especially in children and adolescents due to accidental trauma, and chronic habits. This is the case report of a 7 years old female patient, who injured her maxillary anterior gingival region with an unusual habit.

**Case Report:** Local gingival ulcers and recessions were observed bilaterally on the buccal gingiva of maxillary deciduous lateral incisors. The anamnesis of the patient and her parents eliminated the cause of toothbrush injury. Hence, it was decided to monitor the patient by her parents to reveal the cause of the lesions. After 2 weeks of follow-up, habitual nail scratching appeared to be the main cause of gingival ulcers and recession. The problem was thought to be of psychological origin and pediatric psychiatric treatment was suggested. The patient was also advised not to brush maxillary anterior segment for two weeks, and instructed to remove the accumulated plaque on the anterior teeth, with saline soaked cotton pellets.

**Conclusion:** The patient ceased to scratch gingiva with the help of psychiatric treatment and after 6 months her gingival health was achieved.

**Key Words:** Gingival ulcer; trauma; onychophagia; habits

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### Özet

**Amaç:** Hasta tarafından dişetinde oluşturulan yaralanmaların, kaza ile oluşmuş travma ve kronik alışkanlıklara bağlı olarak çocuklar ve yetişkinlerde görüldüğü kabul edilmektedir. Bu olgu sunumu, üst çene kesici dişeti bölgesini alışılmadık bir alışkanlığa bağlı olarak yaralayan 7 yaşında bir kız çocuğu ile ilgilidir.

**Olgu Sunumu:** Lokal dişeti ülserleri ve çekilmeler, üst çene süt lateral dişlerin bukkalinde görülmüştür. Hastadan ve ailesinden alınan anamnez, diş fırçasına bağlı yaralanma olma ihtimalini geçersiz kılmıştır. Bu nedenle, hastanın, ailesi tarafından gözlemlenmesine karar verilmiştir. İki haftalık takipten sonra, süreklilik gösteren, tırnak ile dişetinin kazınmasının dişeti ülserlerinin ve dişeti çekilmesinin nedeni olduğu anlaşılmıştır. Sorunun psikolojik kökenli olduğu düşünülmüş ve pediatik psikolojik tedavi önerilmiştir. Hasta ayrıca üst çene kesici diş bölgesini fırçalamaması ve diş temizliğini serum fizyolojik ile ıslatılmış pamuk ile yapması konusunda bilgilendirilmiştir.

**Sonuç:** Altı ay süren psikolojik tedavi sonucunda hasta alışkanlığından kurtarılmış ve sağlıklı dişeti yapısı tekrar elde edilmiştir.

**Anahtar Kelimeler:** Dişeti ülserleri; travma; onikofaji (tırnak yeme alışkanlığı); alışkanlıklar

Various sorts of gingival injuries which patients inflict upon themselves can be observed in dental clinics. Gingival injuries are generally observed after tooth abrasion due to overzealous brushing and commonly

observed after patients are first given oral hygiene instructions. This type of trauma can precisely be diagnosed by clinical appearance and history and can easily be treated by modifying the brushing technique. The other types of gingival injuries may be more serious in which patients repeatedly pick or scratch their gingiva with a finger or fingernail despite to not being concerned about the obvious damage being produced.<sup>1</sup> However, other agents including knives,<sup>2</sup> baby pacifiers,<sup>3,4</sup> strands of hair,<sup>5</sup> and toothpicks<sup>6,7</sup> have been reported. Since these injuries are often associated with emotional disturbance, they are more difficult to resolve. The cases of this type of self inflicted gingival injury

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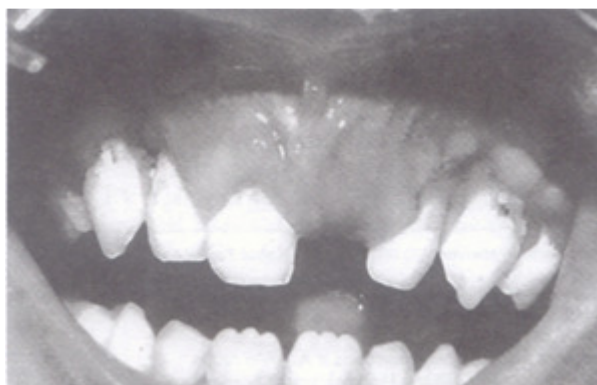
can also be called “gingivitis artefacta” or “factitial gingivitis” and they were first classified by Stewart and Kernohan<sup>3</sup> in 1972. Self-inflicted gingival injuries seem to be much more common in children than in teenagers and adults.<sup>1,8</sup> Most of the reported cases have involved female patients and appeared to be familial in nature.<sup>9</sup> The common clinical appearance have reportedly presented as localized inflammation or ulceration of gingiva which is frequently accompanied by gingival recession.<sup>1</sup> Stewart and Kernohan<sup>3</sup> have suggested a classification system for self-inflicted gingival injuries. Type A injuries are superimposed on a pre-existing condition such as herpetic lesions or localized gingival infection. Type B injuries are secondary to established habits, such as finger sucking or nail biting. Type C injuries have unknown or complex etiologies. These would include injuries due to psychological problems. According to the literature, the most common cause of children’s gingival injuries is their own fingernails.<sup>10</sup> Several investigators have studied the prevalence of fingernail biting. In general, fingernail biting can begin as early as 4 years of age, peaking between 10 and 18 years of age.<sup>11</sup> Prevalence has been estimated to be 30% in childhood<sup>12</sup> and 45% in adolescence.<sup>13</sup> More recently, however, others have estimated that the prevalence of fingernail biting is approximately 50%.<sup>14</sup>

There are degrees of severity of nail biting (mild, moderate, and severe) as well as compounding factors (intelligence, situational circumstances, family variables and behavioral problems) that have been identified. Fingernail biting has been associated with a variety of medical and dental problems including gingivitis, dental attrition, root resorption, chronic subungual infections, localized malocclusions, incisal edge fractures, craniomandibular dysfunction, habitual luxation, recurrent headaches and tooth loss.<sup>15-18</sup> Even though, fingernail biting is the most common cause of self-inflicted gingival injuries and has been associated with several medical and dental problems, the following case report presents the

first case in self-inflicted gingival injuries due to habitual fingernail scratching and was not found in literature review as an etiological factor.

### Case Report

A 7-year-old female’s parents referred to our clinic complaining about the recession and gingival ulceration around the deciduous canine and lateral incisor teeth of their child (Figure 1). According to her parents, the lesions were running chronically and have begun approximately 6-8 months ago. The lesion was first noticed by her mother. In clinical examination, gingival recession and ulcerative gingival changes was observed on primary canine and lateral incisors. However, the cause of the lesion has not been diagnosed. Therefore patient’s parents were instructed to monitor the child’s brushing behavior and para-functional habits. After one month the cause of gingival ulcers and recession was found by the mother. According to her anamnesis, the child had a continuous nail scratching on the buccal region of maxillary primary incisors. Since the reason of nail scratching was vague according to her and her parents’ anamnesis, the patient was consulted with a pediatric psychiatrist and it was decided to begin psychiatric treatment. Additionally, the patient was advised not to brush maxillary anterior region for 2 weeks and instructed to use saline soaked cotton pellets, for oral hygiene, in the area of lesions. This procedure was also demonstrated to her parents. No medicaments were prescribed and the patient was



**Figure 1.** Pre-treatment clinical appearance: Gingival ulceration and recession around the deciduous incisors.

called for periodic controls with 1-month intervals. She and her family were both encouraged to make every attempt to stop the scratching habit in order to prevent further damage in the periodontal tissues. Four months after the beginning of psychiatric treatment the patient ceased nail scratching and gingival tissue healing was rapidly improved in the following 2 months. After 6 months the gingival health was achieved but the patient was observed for another 6 months until her permanent right central incisor had erupted (Figure 2). Additionally, compomer fillings were made on 2 deciduous canine teeth. Eruption of new tooth and the loose of deciduous incisor were helped the healing of the ulcers and the recession around her teeth.

### Conclusion

Several causes of self-inflicted gingival injuries have been presented in the literature. Fingernail biting is the most seen factor to cause gingival injuries.<sup>2,8,10,19</sup> This case report presents a new etiology in traumatic gingival injuries. Scratching the gingiva may cause not only a mechanical injury but also potential bacterial contamination, inflammation, ulceration, recession, attachment loss, bone loss and even tooth loss. It also must be considered in the differential diagnoses for gingival recession and ulceration in children. Obviously, the prevention of scratching is very difficult. For that reason, it seems mandatory to explore underlying factors. Especially, self-inflicted injuries in persons of more normal intelligence and psychological



**Figure 2.** Post-treatment clinical appearance. Erupted permanent central incisors and complete healing of lesions.

outlook are more difficult to explain. Ayer and Levin<sup>20</sup> have postulated that in these cases self-inflicted injury is a learned behavior related to a desire for affection or attention. Most of the cases of self-inflicted gingival injury reported in the literature have motivations of this type.

On the contrary, self-inflicted gingival injury habits can be described as non-nutritive sucking habits.<sup>20</sup> Therefore, in the presence of gingival ulceration, and recession in children clinicians have to counsel both the patient and the parents regarding the harmful effects of scratching and encourage them for a psychiatric treatment to explore underlying factors.

Clinical features of the scratching can not only be treated with palliative treatments. However, brushing the teeth with the use of saline soaked cotton pellets and subsequent examination of the patient may help to preserve dental health.

In this case report, the eruption of permanent central incisor helped the healing the gingival recession, ulceration and possible future damages. However, if this harmful habit of the patient had affected the gingiva of deciduous teeth, a gingival esthetic operation such as sliding flaps, grafts would have been inevitable.

Following the clinical features of our patient and other reported cases, we may suggest that the nail scratching can be a new etiology in gingival traumatic injuries and must be considered as a harmful habit.

In conclusion, we may propose clinicians to take a good history including oral hygiene practices in suspected lesions of children. Additionally, if a diagnosis can not be established from the initial evaluation, monitoring the patient by his or her parents may be helpful to diagnose the lesions. Furthermore, we believe that the examination of children patients in 6 months of intervals should be carried out to prevent such harmful effects of several habits.

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