

Nail prosthesis for an onychophagia patient: A case report

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ABSTRACT

Onychophagia is a common oral habit, observed in both children and adults causing both medical and dental problems from mild to severe complications. Many treatment options are indicated but treatment should be directed at the causes of any precipitating stress. The key to success is the nail biter's consent and cooperation. This paper presents a method for constructing custom made acrylic nail on a deformed nail in a chronic nail biting patient for esthetics and aiding as reminder to stop nail biting along with the multidisciplinary approach to build up the child's self-confidence and self-esteem.

Introduction

Onychophagia or nail biting, is a common oral compulsive habit in children and adults. [1] Onychophagy is classified as a nail disease caused by repeated injuries.[2] Nail biting as auto destruction and onychophagy are its most aggressive forms. The need to bite and even to eat fingernails is linked to a psycho emotional state of anxiety. The etiologies suggested for nail biting include anxiety, stress, loneliness, imitation of other family member, heredity inactivity, transference from a thumb-sucking habit, and poorly manicured nails. Physically, nail biting can lead to dental problems such as atypical root resorption, periungual warts, hang nails, chronic paronychia, and gingival swelling. This paper aims to the prosthetic restoration of nail in a chronic nail biting patient fulfilling the immediate need of esthetics and also aiding as a reminder to stop nail biting.

Case Report

A male patient aged 20 years reported to Dept. of Prosthodontics with a complaint of unsightly appearance of nail (Figure 1). During clinical examination, it was revealed that the patient is a chronic nail biter since childhood and the nail of left middle finger is deformed. Stained acrylic nail, which could be retained by medical adhesive, was planned.

Method for fabrication of nail prosthesis is either by direct or indirect method. Before fabricating the nail prosthesis, the deformed nail of the finger was prepared by trimming of the excess nail and cleaning it with surgical spirit.

When direct method is to be used then a thin layer of

petroleum jelly is smeared and then self cure clear prepolymerized acrylic resin powder tinted with acrylic stains matching the nails of adjacent fingers is mixed with monomer brought to dough stage and later is adapted onto the prepared nail (Figure 2). Once the resin hardens the acrylic nail is finished, polished and stained extrinsically to obtain white margins and other details. For indirect method, impression of distal phalanx of middle finger using vinyl poly siloxane is made and dental stone is poured to get a finger cast. On the finger cast the wax pattern is carved, flaked, dewaxed, packed with stained heat cure clear acrylic resin in dough stage, cured, deflaked, trimmed and polished, later stained extrinsically to give natural appearance. Casted custom acrylic nails have maximum versatility and can also be painted with nail polish when desired (especially for female patients).

Patient was educated, stimulated for good habits and was made to develop conscious awareness along with the prosthetic nail retained by medical grade adhesive (Figure 3). The esthetic demand is met and will be a reminder to stop the habit. Very often the deformed nail should be trimmed as it keeps growing or else the adaptation of prosthetic nail will be lost so also the retention. In case, retention gets poor, relining using self cure is recommended.

Discussion

A child, by biting his or her nails, is exhibiting an evolutionary disturbance linked to the oral stage of psychological development. Nail biting, demonstrating anxiety made worse by tense moments, is seen as a reflex of emotional imbalances, albeit not an important psychiatric symptom. After adolescence, onychophagia is usually replaced by the habit of lip "pinching," chewing of pencils or other objects, nose scratching, or hair twirling. In adults, smoking or gum chewing seems to be a more common substitute, because these are



Figure 1. Onychophagia patient with deformed left middle finger nail.



Figure 2. Custom made acrylic nail

socially accepted methods of oral gratification.

Nail biting children are at risk of developing malocclusion of the anterior teeth.[3-5] The forceful and continuous habit of nail biting causes alveolar destruction in the area of the involved teeth.[6] It can also produce small fractures at the edges of the incisors, and gingivitis.[7] Secondary bacterial infection can occur from diseases of the nail such as onychomycosis and paronychia and nail biting might spread the infection to the mouth. Conversely, a nail biter with oral herpes can develop herpetic whitlow of the bitten finger.[7]

To be able to quit the habit, the patient must be motivated. He or she must be aware of the need to abandon the habit, and here the professional role acquires relevance, offering helpful suggestions in overcoming the addiction. Severe or sudden suppression might introduce personality alterations. Some people spontaneously quit onychophagia because of fear of developing infections; others quit to imitate friends who have attractive nails. As a rule, no treatment is needed for mild cases of onychophagia. For more serious situations, treatment should involve removal of the emotional factors inducing the habit (excitement, overstimulation, unhappiness, idleness, for example); in most cases, a little more attention, affection, and comprehension are enough to break the habit.

Outdoor activities requiring great physical effort (skating, running, ball playing) might be indicated, since they function as tensions releasers. Outdoor play and opportunities to use the mind, hands, and emotions in arts and crafts are recommended. Oral or physical punishment, ridicule, nagging, and threats are not helpful and often compound the problem or replace it with more serious psychological disorders, and might cause social conflicts and feelings of guilt. Ultimately, the parent's education might be the best



Figure 3. Custom made acrylic nail retained by medical graded adhesive.

treatment for these children. Olive oil applied onto the nails make them soft and pliable, removing the temptation to chew off nails with the teeth. Chewing rubber bite piece or sugar-free gum if not compulsively done, could also be a way to keep the mouth occupied and render the habit difficult or impossible.

Keeping the nails well trimmed is another useful measure, so that poorly trimmed corners and cuticles are not temptations. For girls, having the nails manicured in a sophisticated beauty parlor, instead of at home by a family member, could have a positive and surprising result. Boys might apply bandages to their fingers, letting their friends believe they are treating injuries, rather than fighting onychophagy. The use of occlusive dressing on the fingertips and wearing mittens or pajamas that cover both the hands and the feet are a variety of reminders and should only be used with the consent and cooperation of the child.[8] Habit reversal is more effective than a placebo control and should be considered a well-established intervention for body-focused repetitive behaviors like nail biting.[9]

The nail prosthesis on deformed nail so made for a nail biter will be a reminder and will also meet the esthetic demand. From a general point of view, the best method to handle a nail biter is to educate the patient, stimulate good habits, develop conscious awareness, and thus guarantee effective results, because no other way to stop the habit is more efficient, intelligent, and satisfactory.

Conclusion

Finger nail biting is a relatively common behavior among and adolescents and usually represents a habit with minimal sequel. However, in certain cases, a significant problem can develop. Prosthetic nail retained by medical grade adhesive on distorted nail fulfils the esthetics and also act as reminder to stop the habit along with patient education and awareness could be helpful for an onychophagia patient.

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