

## CLINICAL REPORT

# Onychophagia as a Spectrum of Obsessive-compulsive Disorder

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**Onychophagia can be explained as a kind of a compulsion that may cause destruction of the nails. Habitual nail biting is a common behaviour among children and young adults. By the age of 18 years the frequency of this behaviour decreases, but it may persist in some adults. Nail biting is an under-recognized problem, which may occur on a continuum ranging from mild to severe. Nail biting has received little attention in the psychiatric and dermatological literature. Its position in widely accepted classifications of psychiatric disorders (ICD-10 and DSM-IV) remains unclear. This disorder seems to be related to obsessive-compulsive spectrum disorder. Here, we present three case reports of onychophagia and co-occurring psychopathological symptoms and discuss the close relationship of onychophagia to obsessive-compulsive spectrum disorder and possible treatment modalities. Psychiatric evaluation of co-occurring psychopathological symptoms in patients with onychophagia, especially those with chronic, severe or complicated nail biting, may be helpful in making a choice of individual therapy. Serotonin re-uptake inhibitors seem to be the treatment of choice in severe onychophagia. Key words: onychophagia; nail biting; obsessive-compulsive spectrum disorder.**

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Onychophagia is defined as a chronic nail biting. This condition should be distinguished from onychotillomania, another form of self-induced destruction of the nails similar to onychophagia caused by recurrent picking and manicuring of the nails. Habitual nail biting is a common behaviour among children and young adults (1). However, there are very few epidemiological data analysing the frequency of this entity in the population, and most data are limited to children and adolescents. It is estimated that 28–33% of children between 7 and 10 years of age and approximately 45% of teenagers are nail-biters (1). By the age of 18 years the frequency of this behaviour decreases, although it may persist in some adults (2). The prevalence of nail biting among people in the age

range 60–69 years is believed to be between 4.5% and 10.7% (2, 3). In most cases nail biting seems to be only a cosmetic problem. However, if uncontrolled, it can cause serious morbidity. The most common complications are severe damage to the cuticles and nails, paronychia and secondary bacterial infection, self-inflicted gingival injuries, and dental problems (4, 5). Temporomandibular dysfunction and osteomyelitis have also been reported as a consequence of chronic nail biting (6, 7). In addition, nail biting may lead to psychological problems in some patients (e.g. significant distress). Nail biting is often embarrassing and socially undesirable.

Here, we present three case reports of onychophagia and co-occurring psychopathological symptoms and discuss the close relationship of onychophagia with obsessive-compulsive spectrum disorders, and possible treatment modalities.

## CASE REPORTS

### Case report 1

A 28-year-old female patient was diagnosed with panic disorder and obsessive-compulsive disorder (OCD). Onychophagia was also recognized. No family anamnesis of psychiatric disorders was found, and no alcohol or drug abuse was reported. Symptoms of panic disorder appeared 4 years before the first psychiatric consultation. Initially, she was diagnosed by general practitioner as having “anxiety neurosis”. Mitral valve prolapse syndrome was also diagnosed at the same time. The anxiety neurosis was treated with amitriptyline, doxepin, and lorazepam, with transient success. Two years later she discontinued this therapy. After one additional year a panic anxiety appeared again. At the same time symptoms of OCD occurred. She had obsessions that her children could have an accident and be hurt. She presented with compulsions of very frequent controlling and checking her children. In addition, she also reported nail biting, which had started when she was under 10 years of age. Psychiatric treatment with 175 mg clomipramine daily was introduced. All symptoms of panic disorder, OCD and onychophagia disappeared within 10 months. Pharmacotherapy was discontinued 2 months later. Clomipramine was well tolerated and no adverse events were observed during the whole treatment.

### Case report 2

A 17-year-old female patient was diagnosed with onychophagia. No family anamnesis of psychiatric disorders and no alcohol or drug abuse were noted. No psychiatric treatment had been introduced in the past. The problem of onychophagia started in early childhood when she was under 5 years of age, and had continued until the time of examination. Due to the severity

of the nail damage her family suggested that she should visit a dermatologist. On dermatological examination total damage of both thumb nails was seen (Fig. 1). The greater part of both thumb nails was totally destroyed, and the remaining parts of her nail plates were severely wrinkled with multiple cracks. After the dermatological consultation the patient was referred to a psychiatrist. Onychophagia without other mental disorders was diagnosed during psychiatric examination. Because of the severity of onychophagia psychopharmacotherapy was started. The patient received fluvoxamine, starting from 100 mg daily, and increasing to 300 mg daily; however, there was no marked improvement within 3 months. Fluvoxamine was then changed to 100 mg daily sertraline. She was also instructed to paint her nails with a lacquer. The nail biting decreased after 2 months. After another month she stopped painting her nails, but continued on sertraline, and the symptoms of onychophagia reappeared. Finally, she put false nails over her own nails while continuing sertraline therapy. This procedure resulted in a total re-growth of natural nails. At follow-up (one year later) she was still free of symptoms of onychophagia.

#### Case report 3

A 35-year-old female patient with no family anamnesis of psychiatric disorders and with no alcohol and drug abuse was referred for psychiatric consultation by a dermatologist. When she was 9 years old, "anxiety neurosis" had been diagnosed by her general practitioner and she had been treated for 9 years, taking diazepam and propranolol occasionally. The first symptoms of onychophagia appeared in early childhood when she was under 5 years old. When she was 17 years old acne was recognized by a dermatologist and she was treated with topical anti-acne preparations. Despite anti-acne treatment she developed acne excoriée, which was present until the psychiatric consultation. During psychiatric examination panic disorder and onychophagia (Fig. 2) were diagnosed. All of her fingernails were very short, with longitudinal ridges and frayed free edges of the nail plates. In some places partial loss of the nail plates was observed, as well as nail wrinkling. The patient refused any dermatological and psychiatric therapy and was lost to follow-up.

#### DISCUSSION

Bohne et al. (8) suggested that nail biting is an under-recognized problem that may occur on a continuum



Fig. 1. Severe dystrophy of the thumb nails due to nail biting in patient 2.



Fig. 2. Nail lesions due to nail biting in patient 3.

ranging from mild to severe. Nail biting has had little attention in the psychiatric or dermatological literature. Its position in widely accepted classifications of psychiatric disorders (ICD-10 and DSM-IV (9, 10)) remains unclear, as does its aetiology. Thus, it is difficult to establish proper prevention and therapy strategies. According to some studies (6, 11), nail biting (as well as hair pulling or skin picking) may be caused by over-stimulation (due to stress or excitement) or under-stimulation (due to boredom or inactivity). Onychophagia can be treated as a kind of a compulsion that may cause destruction of the nails. This disorder seems to be related to obsessive-compulsive spectrum disorder. Obsessive-compulsive spectrum disorder overlaps with OCD in terms of clinical symptoms, associated features (age of onset, clinical course and comorbidity) and response to specific psychopharmacological and behavioural treatment (12). Obsessive-compulsive spectrum disorders are characterized by obsessive thoughts or preoccupations with body appearance (body dysmorphic disorder), body weight (anorexia nervosa) or body illnesses (hypochondriasis), or by stereotyped ritualistic behaviours, such as tics (Tourette's syndrome), hair pulling (trichotillomania), sexual compulsions and pathological gambling. Besides onychophagia, obsessive-compulsive tendencies may manifest in dermatology as onychotillomania, trichotillomania, skin picking, and acne excoriée (2, 13, 14). Recently these problems have been termed body focused repetitive behaviours (BFRB) (6, 11). It has been suggested that nail biting is related to high anxiety and low self-esteem (1, 15). Patients with onychophagia have been scored higher on obsessive-compulsiveness, especially those who regarded their nail biting as a serious problem (15). Grant & Christenson (16) found that comorbid psychiatric disorders are frequent in trichotillomania and chronic skin picking, but they did not focus on onychophagia. Therefore, further studies are needed to assess co-occurring anxiety and OCD among patients with chronic onychophagia. It would also be interesting to investigate whether nail biting in childhood could predispose to OCD or other psychiatric disorders in adulthood. Because of the lack

of systematic surveys evaluating this problem, case reports are very helpful in clinical practice to better understand the nature of onychophagia and choose the proper treatment strategy.

In all of the patients described here, the onset of onychophagia occurred in childhood, similarly to the most OCD cases. In some patients onychophagia seems not to be an isolated problem, but may co-occur with other psychopathological symptoms or mental disorders. In the first patient described here, comorbidity with panic disorder and OCD was diagnosed, while in the third case comorbidity of onychophagia, acne excoriée and panic disorder was found. In the latter case, both, onychophagia and acne excoriée should be considered as entities belonging to the obsessive-compulsive spectrum disorder.

Clomipramine appeared to be an effective, safe and well-tolerated agent to control symptoms of OCD and onychophagia in our first patient. Serotonin re-uptake inhibitors (SRIs), such as clomipramine or sertraline (as was reported in the second case), which are used in the treatment of OCD, may also be considered a good treatment option in onychophagia. Other authors also considered SRIs as effective therapy for onychophagia (11, 17). In addition, SRIs were documented to be effective in other psychodermatoses, such as trichotillomania or body dysmorphic disorder (18, 19). It has been suggested that pharmacotherapy is effective in approximately 60–70% of patients with onychophagia (11). On the other hand, behavioural therapy, including self-monitoring and habit reversal also resulted in a short-term reduction in nail biting behaviour (20).

Based on the cases described here, we conclude that onychophagia cannot be considered as only a dermatological or a cosmetic problem, and that patients with severe forms of nail biting should be examined by psychiatrists. Psychiatric evaluation of co-occurring psychopathological symptoms in these patients, especially those with chronic, severe or complicated onychophagia, may be helpful in making a choice of individual therapy.

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