

REVIEW

Onychotillomania: An underrecognized disorder

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Onychotillomania is an uncommon and likely underreported condition in which patients repetitively manipulate the different constituents of the nail unit. Onychotillomania is characterized by a range of nonspecific findings, including bizarre morphology of the nail plate and damage to the nail bed and periungual skin. Histopathological changes are also nonspecific, but may be viewed as analogous to lichen simplex chronicus and prurigo nodularis of the skin. Clinical history is essential to making this diagnosis, as effective treatment modalities may focus on behavioral therapies and psychiatric medications. (J Am Acad Dermatol <http://dx.doi.org/10.1016/j.jaad.2016.05.036>.)

Key words: habit tic deformity; nail diseases; nail-picking disorder; nails; onychotillomania; onychotillophagia.

Although traditionally viewed for its role as a barrier against trauma and pathogens, the functions of the nail are manifold. The nail may be a template for cosmetic adornment, a proxy for social status, a marker of systemic disease, and a window into the underlying psyche. Social and psychological dysfunction may manifest as inattention to the cleanliness or maintenance of the nail plate, while behavioral disorders may present with the stigmata of repetitive injury.

Behavioral disorders of the nail include onychotillomania, onychophagia, habit tic deformity, and sometimes, median canaliform dystrophy. Onychophagia has been widely studied in the medical literature, with 431 citations in PubMed. Habit tic deformity (onychodystrophia mediana canaliformis) possesses an unmistakable clinical phenotype, characterized by a longitudinal central nail plate depression, with multiple transverse grooves. Median canaliform dystrophy (median nail dystrophy, dystrophia unguium mediana canaliformis, or Heller dystrophy) also commonly presents with a characteristic pattern, the “inverted fir tree.”¹ Onychotillomania, however, very often presents a diagnostic and therapeutic challenge.

We reviewed all of the published medical literature on onychotillomania. We performed PubMed

and PsycINFO literature searches using the search terms “onychotillomania” and “nail picking disorder.” We then examined reference lists. We identified 50 citations in PubMed and 3 citations in PsycINFO as of May 2016. Because of the poor quality of evidence, we were not able to complete a quantitative review, and present our findings qualitatively.

DEFINITIONS

“Onychotillomania,” or nail-picking disorder, was coined by Alkiewicz² in 1934 as excessive, self-induced damage of the nail. The word onychotillomania is derived from Greek onycho (nail), tillo (to pull), and mania (madness). Behaviors described included recurrent picking or pulling and the manicuring of fingernails and/or toenails leading to onychodystrophy.² Although patients often use their own fingers or fingernails to manipulate other digits, they may also use tools for excessive grooming. Onychotillomania is underreported, with very few citations in the medical literature, the majority of which are case reports and retrospective studies.

Several publications have referred to onychotillomania as comprising a spectrum of illness.^{3,4} *Dermatology* by Bologna et al⁵ categorizes several self-induced nail abnormalities within the spectrum

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of onychotillomania. This includes nail biting, habit tic deformity, and nail destruction associated with psychiatric disorders. Nail biting includes a wide clinical phenotype, from healthy individuals who occasionally chew on the nail apparatus to those, including many with neuropsychiatric illness, who chew regularly and inflict great damage to their nail plates and periungual skin.

The habit tic deformity is considered to be an anxious habit in which patients unconsciously and repetitively rub and push back the cuticle and proximal nail fold of the thumb with the index finger. Although the origin of median canaliform dystrophy is usually idiopathic, this abnormality may result from a temporary nail matrix defect or isotretinoin therapy. It also

may be caused or exacerbated by nail picking.⁶ *Fitzpatrick's Dermatology in General Medicine*⁷ mentions onychotillomania as a risk factor for nail fragility and an etiologic agent of nail trauma and melanonychia, but does not explicitly discuss onychotillomania as a separate diagnostic entity. Our clinical experience indicates that there is some overlap between disorders, and individuals often present with more than 1 nail behavioral disorder.

The classification of onychotillomania has not been uniformly accepted into the medical literature, and should be approached with caution until novel evidence suggests otherwise. A reclassification would significantly alter the incidence of onychotillomania if other disorders are considered under a unifying diagnosis. We will refer to onychotillomania as a distinct, although sometimes overlapping entity from onychophagia; habit tic deformity as a variant of onychotillomania; and median nail dystrophy, while usually a separate entity, an occasional overlapping diagnosis in a subset of patients with onychotillomania (Fig 1).

EPIDEMIOLOGY

The true incidence of onychotillomania is unknown, but is assumed to be low and underreported. Although limited nail picking is common in the general population, a small number of patients experience significant distress and disability caused by excessive manipulation.⁸ In 2014, Pacan et al⁹ conducted the only known study to examine the prevalence of onychotillomania, which they defined as recurrent, destructive picking and manicuring of the nails. They interviewed 339 Polish medical

students with a structured questionnaire, identifying 160 cases of onychophagia for a 46.9% prevalence, but only 3 cases (2 female, 1 male) of onychotillomania with a prevalence of 0.9%. The mean age of onset of onychotillomania was 8.6 ± 2.3 years, and the duration was 14 ± 2.5 years.⁹

CLINICAL FINDINGS, DIFFERENTIAL DIAGNOSIS, AND HISTOPATHOLOGY

Multiple clinical findings have been described. Like many self-induced dermatoses, findings are nonspecific, varied, and may be bizarre. Nail plate signs include generalized dystrophy and atypical morphology, including transverse grooves, generalized or patchy rough areas, brittle-

ness, thinning, and onychatrophy. Plate abnormalities often do not affect all nails and findings may affect nail plates asymmetrically (Fig 2). Periungual skin is often involved, particularly the cuticle and nail folds, which may be erythematous, edematous, eroded, or secondarily crusted. Macrolunula is a frequent sign¹⁰ (Fig 3). Nail plate pigmentation and longitudinal melanonychia are other common findings, and are likely a result of melanocyte activation from repetitive trauma to the proximal nail fold, cuticle, and underlying nail matrix.¹¹ Manipulation of the nail unit may lead to chronic paronychia and anonychia. In addition, some patients use sharp instruments to cut the nail plate remnants, thus damaging the nail bed and periungual tissues and resulting in scale, hemorrhage, and crust. The presence of linear and pinpoint hemorrhages of the nail bed on dermoscopy may clinch the diagnosis (Fig 4).

Because findings are not specific, onychotillomania is often misdiagnosed as entities such as lichen planus, psoriasis, 20-nail dystrophy, epidermolysis bullosa acquisita, and onychomycosis. Moreover, physicians have erroneously treated patients with multiple trials of topical medications (including antifungals and corticosteroids), systemic medications including immunosuppressants, and laser surgery.

Histopathological findings are nonspecific and include epithelial hyperplasia, acanthosis, hypergranulosis, and hyperkeratosis of the nail plate (Fig 5). Findings can be thought of as analogous to lichen simplex chronicus and prurigo nodularis of the skin. Given the lack of specificity of these findings, a suspicion for onychotillomania underscores the

CAPSULE SUMMARY

- Onychotillomania is an uncommon and poorly understood disease.
- Onychotillomania is easily diagnosed with a brief clinical examination and focused questioning.
- Appropriate diagnosis may reveal associated psychiatric illness necessitating mental health referral.

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