Trichotillomania

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Synonyms and related keywords: chronic hair pulling, morbid hair pulling

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**INTRODUCTION**

**Background:** Trichotillomania is now recognized as being neither so rare nor so benign as previously believed. Patients with trichotillomania seen in dermatological clinics appear normal in their daily behavior, at least as viewed by laypersons, except for the habit causing the alopecia. Young patients and their parents regard the alopecia as a dermatological condition. In fact, these patients are largely treated by dermatologists, specialists who have sufficient training and knowledge to make the correct diagnosis. The prognosis of trichotillomania is guarded or fairly good. In a smaller group of adult-aged patients with years of trichotillomania, the alopecia is usually extensive and hard to treat in spite of psychiatric intervention.

**Pathophysiology:** This type of traumatic alopecia occurs as a result of the patient's compulsive hair-pulling behavior.

**Frequency:**

- **In the US:** According to Mehregan (1970), 100 practicing dermatologists evaluated 2-3 cases per year. According to Muller (1990), the condition was far from rare, although not common, both in children and adults. According to a report in 1978, it was estimated that up to 8 million Americans might be affected.

- **Internationally:** Considering its benign self-limited course in most patients, the real incidence in the general population should be much higher than the numbers seen by physicians. In South Korea, practicing dermatologists see approximately 1 case per year.

**Sex:** In children, males slightly outnumber females. In adolescents, females are affected more often than males. In adult groups, who are treated in psychiatric
clinics, most patients are females.

**Age:** When considering age, it is best to divide the patients into 2 groups. The age group from infancy to the end of adolescence comprises most of the patients seen in dermatology clinics. Adult patients, many of whom were diagnosed before reaching adulthood, generally find care in psychiatric clinics.

**History:**

- The patient often appears to be indifferent or to have poor insight as to the cause of the illness. During the interview, the patient's responses are ambiguous and could baffel an inexperienced physician. It is worthwhile to remember that hair manipulations frequently occur while patients are engaged in sedentary activities, such as reading, writing, or watching television.

- Quite often, the claim is made that hairs do not grow longer than about 1.5 cm.

- Some patients may report pruritus of the scalp without visible dermatoses.

- To obtain an effective history, a high index of suspicion for the diagnosis is essential.

**Physical:**

- For dermatologists who pay close attention to morphology, the diagnosis of trichotillomania is usually not a difficult one. The general morphology of an individual lesion, showing a geometrical shape and incomplete nonscarring alopecia of the involved area, is typical of trichotillomania (see Picture 1).

- The patches may be single or multiple. The degree of involvement may vary from only a few square centimeters to an extensive involvement of the scalp, sparing only marginal areas (tonsure trichotillomania). Entire involvement of the scalp is also possible. In such cases, at first glance, the condition resembles a hereditary disorder of keratinization.

- Examination with a magnifying glass reveals that the lesions show various combinations of the following: newly growing short hairs with tapered ends, broken short hairs, vellus or indeterminate hairs, comedolike black dots, and empty follicular orifices.

- In addition to scalp lesions, other hairy areas, such as eyebrows and eyelashes, may be involved. Extremely short fingernails (from nail biting) often accompany trichotillomania in children.

**Causes:**

- The compulsive behavior causing and perpetuating the alopecia has not been fully explained yet, but it may be included in a category of impulse control disorders. To continue the repetitive behavior of hair manipulation, a certain mental state characterized by tension with gratification or relief from the hair
pulling may be needed. However, it is not sufficient to call the hair pulling a purely compulsive reaction. The initial impulse can be caused by varied cues in the patient's mind (internal) and environment (external).

- The internal cues include various emotions, such as anger, frustration, and loneliness. The external cues might include an environment where the patient is prone to manipulate the hairs without being interrupted. Although no universal cause of these cues is known, an unsatisfying family relationship or loss of maternal love, especially in children, most often is found.

- Also, it may be possible that once the behavior is established, it becomes habitual, regardless of the initial causative emotional problem.

- The kinds of manipulations to which hairs can be subjected include rubbing, twisting, breaking, pulling (not forcible plucking), and plucking. Although the name trichotillomania suggests the act of plucking (*tillein* is Greek for "to pluck, pull out"), actual plucking seems to be a minor component of the total hair manipulations. If the force of pulling (versus plucking) induces premature entry of the follicles into the catagen phase, this would subsequently lead to increased hair shedding.

- Likewise, breaking of hairs may not be accomplished by only a single manipulation of the hair shaft. Repeated trauma of the hair would make the already manipulated hair more vulnerable to the subsequent injury, resulting in hair that is more easily broken. For all these reasons, patients may believe the alopecia is due to a disease of the hair itself.

- These behaviors can occur deliberately, semiconsciously, or often unconsciously. Therefore, a patient's ambiguous answers to the physician's questions are not surprising, and they do not represent intentional malingering. To understand trichotillomania, understanding both the biology of hair and the patient's psychologic state are needed.

**DIFFERENTIALS**

**Alopecia Areata**  
**Monilethrix**  
**Tinea Capitis**  
**Traction Alopecia**

**Other Problems to be Considered:**

Pili torti  
Pressure alopecia due to headgear or helmet  
Temporal triangular alopecia  
Traction alopecia (eg, from tight braiding)
Lab Studies:

- Trichogram: Microscopic findings of plucked hairs (trichogram) vary according to the area examined. In areas where the hairs are all short with tapered tips (regrowing hairs), the trichogram may show all anagen roots (telogen count = 0). In other areas, especially those that demonstrate broken shafts of various lengths, an increased number of telogen hairs (>20%) can be seen.

Histologic Findings: Clinical diagnosis with inspection of the lesion and history is sufficient in many cases. A trichogram can be helpful. Quite often, biopsy is needed to differentiate trichotillomania from alopecia areata. Multiple sections, either vertically or transversely oriented, are recommended to observe characteristic findings. In general, the biopsy should be taken from a new lesion. The most frequent findings are empty anagen follicles (especially in transverse sections), increased numbers of noninflamed catagen follicles, and pigment casts in hair canals. Distorted or torn away follicles are found infrequently.

Trichomalacia (incompletely keratinized, distorted, and pigmented hair shafts), which once was regarded specific for trichotillomania, is found in less than one half of the total cases and also is seen in acute alopecia areata. If transverse rather than routine vertical sectioning is used, all of these histologic features will be identified in higher frequency and with greater ease. Note that increased numbers of catagen hairs and pigment casts within hair canals may be seen in alopecia areata and syphilis and in trichotillomania. Care should be taken to search for clues to the diagnosis of alopecia areata or syphilis, such as peribulbar lymphoid infiltrate or peribulbar eosinophils. Lymphocytes, pigment, or eosinophils within fibrous tract remnants also are associated with alopecia areata or syphilis. Plasma cells, especially in apical scalp biopsies, are commonly a sign of syphilis. In biopsies from the occipital scalp, plasma cell are common regardless of the etiology of hair loss.

Medical Care:

- For patients seen in dermatology clinics, good results can be obtained by confronting both the patient and the parents with the diagnosis. Supportive care by the dermatologist may be sufficient.

- Shaving or clipping hairs close to the scalp may be helpful to stop the behavior and to assure the parents of the nature of the alopecia. Shaving a circumscribed area on a weekly basis (the "hair growth window") can have the same diagnostic and reassuring benefits. It should be remembered that the shaved (clipped) hairs are not all in the actively growing anagen stage, and several weeks may be required before total regrowth is noted.

- In adult groups, the treatment is difficult and disappointing and is performed best in psychiatric clinics.

- It is unclear how well antidepressants and tranquilizers work for trichotillomania. Well-documented reports in the psychiatric literature show that clomipramine causes short-term improvement in adult patients who are severely affected with trichotillomania and whose disease interferes with their daily life.

Consultations: Consult a psychiatrist when a serious psychiatric disorder is suspected.

Activity: Because the behavior of hair manipulations usually occurs when the patient is engaged in sedentary activities, daily physical exercise may be helpful.
Prognosis:

- In very young children, the prognosis is excellent.
- In late childhood and adolescence, the prognosis is usually good but is more guarded than in young children. The alopecia quite often recurs after a variable time.
- In adult patients, the prognosis is poor, and permanent recovery is uncommon.

Medical/Legal Pitfalls:

- Biopsy findings in trichotillomania overlap significantly with those of alopecia areata and syphilis. Scalp biopsies are interpreted best by someone with considerable expertise. Psychiatric consultation may be appropriate in many patients.

Caption: Picture 1. A geometric patch of incomplete alopecia in a high school–aged boy

![View Full Size Image](Picture 1)

![eMedicine Zoom View (Interactive!)](Picture 1)

Picture Type: Photo

Caption: Picture 2. The 11 year-old girl shows a bizarre patterned lesion covered with short hairs, not bald.

![View Full Size Image](Picture 2)

![eMedicine Zoom View (Interactive!)](Picture 2)

Picture Type: Photo

Caption: Picture 3. Severe long-standing lesion in an adult female.

![View Full Size Image](Picture 3)

![eMedicine Zoom View (Interactive!)](Picture 3)
In the severe long-standing lesion the hairs may be regressed to vellus or intermediate type hairs with rather smooth scalp.

Tonsure trichotillomania. It was named after monks in the Middle Ages whose hair was tonsured.

When entire scalp is involved, the trichotillomania looks like a keratinization disorder of hairs such as monilethrix.

In the lesion of trichotillomania, sometimes comedonelike black dots are predominant follicular change.

Trichomalacia, incompletely keratinized distorted and
pigmented hair shaft, is one of the characteristic histopathological changes of trichotillomania. It can be seen also in acute alopecia areata.