

A VIDEO-MICROSCOPE STUDY OF "HAIR KNOTS"

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Received: November 20th, 1995

Key words: "hair knots", video-microscopy, pseudofolliculitis.

Synopsis

The purpose of this work was to investigate, using a video-microscope system, the morphology of burrowing hairs after shaving in the legs of young women. We examined ten young women who regularly removed the hair from their legs by razors or wax. All the patients referred that they had noticed that their hair curved after shaving, re-entering the skin. To the naked eye, the hairs appeared twisted and partially included into the skin. By video-microscope we observed that they formed true "hair knots" partially enclosed in the skin. The knots were rather entangles and their pattern was extremely variable. The methods used to remove unwanted hair - razors or wax - did not influence the morphology of knots. "Hair knots" develop after shaving only in some individuals and each person had the same type of knot in all the shaved areas. In our opinion, this is further evidence of the influence of genetic factors on the hair morphology.

Riassunto

Lo scopo di questo lavoro è stato quello di studiare la morfologia dei cosiddetti *peli incarniti* che compaiono in alcune giovani donne dopo la depilazione delle gambe. Sono stati esaminati, mediante un video-microscopio a sonda ottica, dieci soggetti che depilavano regolarmente le gambe mediante rasoi o cerette e che avevano notato questo fenomeno alcune settimane dopo la depilazione. Mentre a occhio nudo si osservava soltanto la presenza di peli arricciati parzialmente inclusi nella cute, con il video-microscopio si metteva in evidenza che tali peli tendevano a formare veri e propri nodi estremamente bizzarri e complessi la cui morfologia differiva da persona a persona ma era sempre la stessa nelle varie aree cutanee dello stesso individuo. Questo rilievo è, a nostro avviso, un'ulteriore conferma dell' influenza dei fattori genetici sulla morfologia del pelo; d'altro canto, una predisposizione genetica era già stata ipotizzata per la comparsa della pseudofollicolite da depilazione.

The penetration of human hair under the skin has been reported in the literature (1) but it is a rare phenomenon. The name of "burrowing hair" (*pili cuniculati*) was suggested for the condition given its likeness to the burrows of scabies (*cuniculi*) which run tunnel-like, horizontally and superficially. Burrowing hairs are sometimes detectable in the plants of barbers' feet due to the continuous contact with cut hair, but the most common causes are shaving and depilation. In fact, curved shaved hairs reenter the skin at short distance from the follicle especially in black men with curly hair. Sometimes, acting as a foreign body, they incite an inflammatory reaction resulting in papule and pustule development (pseudofolliculitis). In young women, who remove the hair from their legs, burrowing hairs and pseudofolliculitis are frequently seen (2,3,4,5). We observed them morphology by a video-microscope.

Material and methods

The apparatus (Moritex Video Microscope System Scopeman, MS-504, Meisei Bldg., Japan) is composed of a processing unit and a color monitor (14" ITTL CVS); light from the light source (a 100W mercury vapour lamp) of the processing unit is guided with the optic fiber to the probe end. Objectives are equipped with non contact lens (x25, x50) and with contact lens (x200). A still video recorder and a colour printer may be attached. We examined ten young women who regularly removed the hair from their legs by razors or waxes. All the patients referred that they had noticed that their hair curved after shaving, re-entering the skin.

Results

With the naked eye the hairs appeared twisted and partially included into the skin. By video-microscope we observed that they formed true "hair knots" partially enclosed in the skin. The knots were rather entangles and their pattern was extremely variable (Fig. 1). However, every patient had the same type of knots in all the cutaneous areas examined. Small

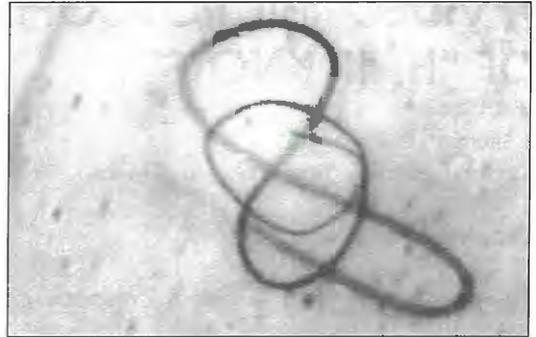


Fig. 1: example of "Hair knot"

haemorrhages were present where the hair penetrated the skin and dilated capillaries were visible nearby. Slight hyperkeratosis was also detectable.

Discussion

There is evidence of genetic predisposition for pseudofolliculitis after shaving. This arises in persons predisposed to it by the anatomy of their hair follicle. For example, tightly curved hairs are a Negro characteristic and so pseudofolliculitis barbae is almost exclusively limited to blacks who shave. Alexander (6) reported a case of pseudofolliculitis localized in the pubic area in a woman who shaved regularly. Indeed, the hair covering this area tends to be very curly or kinky. Pseudofolliculitis has also been described in a set of identical twins, both having the affliction for approximately the same duration and both equally affected.

In the present report, we observed that the methods used to remove unwanted hair - razors or wax - did not influence the morphology of knots.

"Hair knots" develop after shaving only in some individuals and each person has the same type of knot in all the shaved areas. In our opinion, this is further evidence of the influence of genetic factors on the hair morphology.

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