Commentary

Traction Alopecia

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ABSTRACT

Alopecia is common in women of African and Caribbean descent and is multifactorial in origin. Hair loss is cosmetically unacceptable to many as suggested by the volume of hair care products available for hair loss in the market. Hairgrooming methods have been implicated as an important factor for hair loss in women of African descent. Traction alopecia is the commonest form of alopecia seen in Nigerian females. Recent reports suggest that there is an increase in its prevalence and it is also seen in the younger age group. As the name suggest, trauma from traction plays a great role in its development. It is commonly associated with hair care practices such as tight hair styles, wrong use of hair extensions and heavy beads. Unfortunately chronic or repeated traction leads to irreversible loss of hair follicles. Surgical intervention may be helpful but is out of the reach of a lot of women in this environment. There is a need to educate women of African descent on the factors that lead to traction alopecia and how to prevent its onset.

Key words: Chronic traction, folliculitis, irreversible hair loss.

INTRODUCTION

Hair loss in females of African descent is multifactorial in origin, and grooming methods have been implicated[1]. The term 'Traction alopecia'' (TA) however describes a traumatic form of alopecia resulting majorly from hair grooming practices resulting from prolonged or repetitive traction on hair follicles. The term was first used to describe hair loss along the hairline due to prolonged wearing of ponytails in 1907 in subjects from Greenland. Bruce, a British explorer, however had described baldness in Sudanese women resulting from braiding as far back as 1790[2.] Although the use of chemical hair relaxers has been associated with hair loss in those with curly hair, traction alopecia had been reported in African women long before they were used[3-5.]

The prevalence of TA is however on the increase involving yet younger females possibly because these hair grooming practises are started at an earlier age. A recent report from Nigeria showed that 47% of young adult females between the ages of 12 -35 years in secondary and tertiary institutions have traction alopecia[11]. Hair extensions are used to cover such areas of hair loss and they may lead to more hair loss when not applied correctly[12,13]. The volume of hair products in the African market with claims of growing marginal hair loss emphasises the magnitude of the problem at this time.

Most individuals of African descent have kinky or curly hair, which is difficult to manage in its natural state. It is dry in consistency and prone to fractures while grooming because of the kinks in its structure [6]. The hair follicle density on the scalp is lower and hair growth rate is slower in the African with higher telogen rates compared with other races.[78,9,10.] In addition to genetic determinants of hair length, the above factors probably contribute to the shorter and possibly smaller volume of hair in Africans. This has led to the use of hair extensions to increase length and volume. The use of permanent hair relaxers makes the kinky hair more manageable. Unfortunately most of these relaxers are applied without reference to the manufactures instruction thus contributing to hair breakage and loss.

There is a need however to educate females in this environment on the factors contributing to the development of TA with the hope of reducing its prevalence in the Nigerian community.

This paper reviews the contributing factors, clinical features and treatment options of traction alopecia.

CONTRIBUTING FACTORS

Traditional African hairstyles involve parting hair into rows or different shapes and sizes after which the hair in the row is pulled into a plait or weave or banded with a thread. The curves may be multiple leading to traction from pulling the hair in multiple directions. Styles involving weaves usually start from the hairline in the fronto-temporal region. The hair at the start of the weave is usually put under traction especially when there is an attempt to pull all the hair within the parted areainto the plat to give a neat finish. The hairs on the margins are usually shorter than the rest on the scalp. In an attempt to get all the hair especially the vellus hair that are usually shorter at the periphery into the weave,

more traction is exerted on the hair follicles and some of the hairs are actually uprooted while weaving. The hair follicles gradually get destroyed over a period of time. When the vellus or shorter hair is not included in the weave or tight ponytail, it is usually retained at the periphery-giving rise to the fringe sign[14]. Where attempts are made to include all the hair at the periphery into the weave, the vellus hair also falls out and the fringe sign will not occur. Only 34.6% of girls with traction alopecia in our environment had the fringe sign [11]. This is in contrast to 100% recorded in other areas[14, 15.] This suggests that the presence of the fringe sign is also dependent on the hairstyles in the environment. The older females where found to have a higher prevalence of the fringe sign suggesting chronic traction is associated with the establishment of hair loss. Chemically straightened hair looks neater when braided; hence the desire to braid or weave chemically straightened hair even in children. This has been associated with more hair loss[15, 16, 17]. Excessive use of beads at the tips of plats adds more weight to the plat leading to more traction on the hair follicles especially in children. The braided hairs with extensions are longer and put into ponytails further causing more tractions and hair loss at the margins. Braids falloff uprooting terminal and possibly vellus hair with them.

The amount of traction applied to the hair while styling is dependent on the stylist. Stylist should be educated to reduce traction on the hair especially when there is scalp pain or tenting (folding).Pain associated with some hairstyles may be so severe, preventing movement of the head and sometimes headaches that last for a few days. Unfortunately some of the hairdressers explain to the clients that the pain is a normal feature of these hairstyles and will disappear after a few days. In cases where the pain starts after the hair do there is also a reluctance to remove the weave because of the cost implications. There is a need to educate women that hair-grooming methods should be pain free as pain suggests excess traction to the hair follicles. Chronic traction of the hair follicle leads to irreversible alopecia.

A possible contributing factor to traction alopecia in our environments is the use of traditional headgears[11]. When applied tightly to the scalp margins, it may lead to pain as a result of is chemia around the hair margins. Unfortunately a few women ignore the pain and leave the head gear on.

CLINICAL FEATURES

Traction alopecia could occur on any area on the scalp where there is repeated traction, however the marginal type of hair loss remains the commonest. The features seen may be classified as acute and chronic. The acute features may be seen a few hours after a tight hair do. There is scalp pain with erythema especially at the scalp margins. Tenting of the scalp can also been seen.

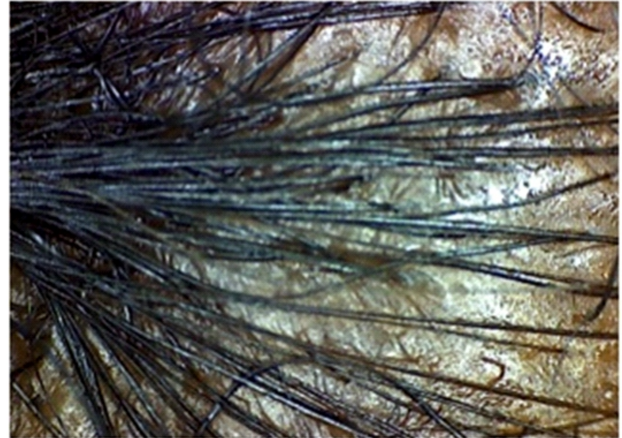

Figure 1. Traction on hair leading to tenting of the scalp

(Fig 1) Over a few days if the traction is not removed, peri-pilar cast may be seen especially in children. Peripilar cast also known as pseudonits are sleeve like keratinous structures that encircle the hair shafts. (Fig 2). They are predominantly composed of retained internal root sheath adhered to the emerging hair shaft. Interesting the local name for hair cast in one of the ethnic groups in Nigeria (Yoruba) means "hair eating" (jerun jerun). Erythema, papules and pustules then develop leading to Traction folliculitis. (Fig 3). The folliculitis initially is inflammatory possibly due to irritation of the hair follicle [19]. Secondary bacterial infection occurs leading to abscesses in a few cases. Hair loss may be seen commonly on the fronto temporal region after a few days. When the vellus hairs are not involved in traction, they are retained as a fringe of hair in the fronto parietal region, the "fringe sign"

Figure 2. Pilar cast, keratinous sleeve around the hair follicles.

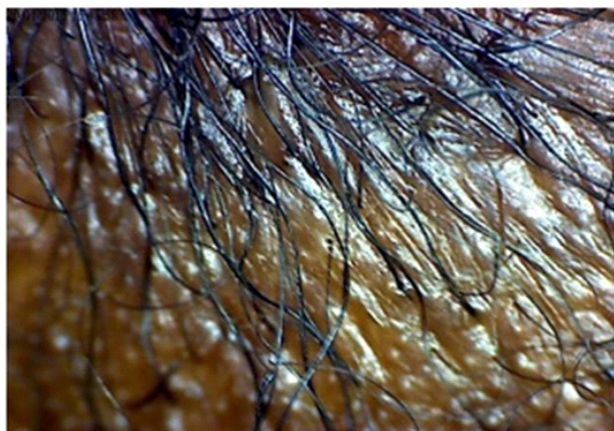

Figure 3. Traction folliculitis

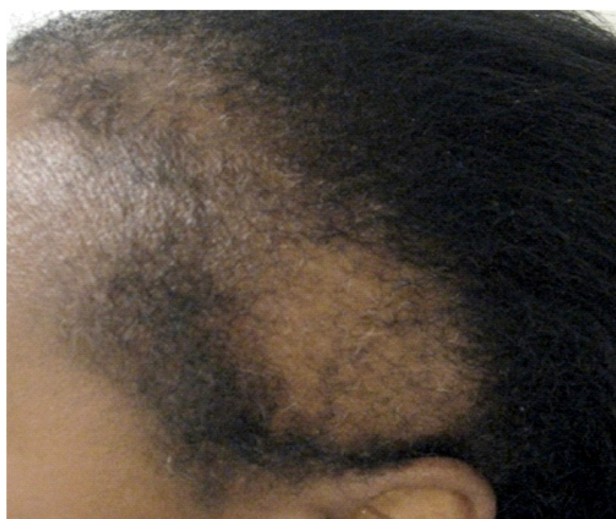

Figure 4. Fringe sign suggestive of traction Alopecia

(fig 4). Where hairstyles also involve the vellus hair the fringe sign will be absent. Hair loss due to traction is usually reversible on the onset. However with recurrent traction folliculitis, hair loss then becomes permanent.

In our environment, we have noticed that hair loss tends to be worse on the left fronto temporal region We are not sure why this is so, but feel it may be due to the frequent parting of the hair on that side or the greater pull of the right hand in combing the left side of the frontal hair.

Dermoscopy findings at the early stages include peri-pilar hair cast, especially on the periphery, perifollicular erythema, pustules and papules. At later stages there is loss of follicular ostia, a reduction in terminal hair, white dots and vellus hair (Fig 5).

Histopathological findings include trichomalacia, reduction in the number of terminalfollicles, which are replaced by fibrous tracts, however the sebaceous glands remain intact. There is also an increase in vellus

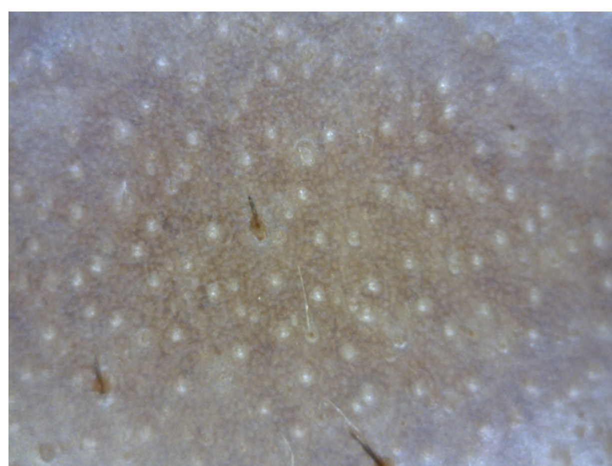

Figure 5. Dermoscopy of the scalp showing loss of follicular ostia

hair[20].

Other causes of marginal alopecia such as frontal fibrosing alopecia, trichotillomania, Marginal alopeciaareata and female pattern hair loss should be excluded.

TREATMENT

Once there is evidence of excessive traction on the hair follicles, the hairstyle should be removed. Traction folliculitis should be treated with antibiotics to prevent further destruction of the follicles[19]. Early stages of TA have been shown to respond to intralesional steroids and or 2-5% topical minoxidil. In stable long standing cases hair transplants and scalp reduction procedures have been found useful[21].

In conclusion aetiology of "traction alopecia" at the moment appears to be Iatrogenic. There is a need to encourage women to have hairstyles or use grooming techniques, which cause minimal hair loss. Pain should not be endured when styling the hair as this may suggest undue traction. Tight hair styles involving traction should be avoided as much as possible in children as this will lead to earlier onset of traction alopecia

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