

Ethnic Hair and Scalp Disorders

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ABSTRACT: *This chapter surveys the racial differences of hair, and then focuses on African-Americans, their hair grooming practices and how these practices relate to the common hair and scalp disorders unique to this population.*

In recent years, literature has acknowledged that race and ethnicity are important factors to consider in the clinical presentation, management and treatment of skin and hair disorders. Following a survey of the literature on the racial differences of hair, this article will focus on the curly hair of blacks, the grooming practices of blacks, and the relation of those practices to common hair and scalp disorders unique to this population.

Racial Variations of Hair

Shape: There are no biochemical differences in hair between racial groups, however morphological differences have been documented.¹ Caucasian hair is typically straight or wavy, round/oval on cross-section and the hair follicle is straight. Asian hair is straight, round on cross-section, contains a straight follicle and the diameter tends to be greater than in the other groups. The hair of blacks tends to be curly, elliptical on cross-section and emanates from a curved hair follicle. Lindelof et al. determined that the shape of the hair follicle is what produces the shape of the hair.²

Breakage: Breakage is a frequent problem with the hair of blacks. Khumalo et al. examined hair samples from African, Caucasian and Asian volunteers and compared the damage caused by normal hair grooming.³ Light and scanning electron microscopic examination revealed 10–16% of black African hairs exhibited knots and were intertwining, interlocking and appeared broken. Repeated breaks of the hair shaft with no attached roots were present in the African hairs, and the hair was shorter than in the other two groups.

Density: There are racial differences in hair density. A retrospective study of scalp biopsies on 22 African-Americans and 12 Caucasians showed that the total hair density, number of terminal follicles and number of anagen hairs were lower in the African-American subjects.⁴ A study by Bernstein and Rassman⁵ found that variations in follicular units per square millimeter were less in Africans (0.6%) than in Caucasians (1.0%), Asians (1.0%) or Chinese (0.7%) patients. Even though the hair density was less in Africans, their predominant hair grouping was greater, i.e. three hairs per follicular unit, as compared to two hairs per follicular unit in Caucasians, Asians, and Chinese. Clinically, these racial variations in hair density become important in interpreting scalp biopsies and evaluating hair restoration in black patients with hair loss.⁶

Dryness: Black hair appears to be inherently dry.⁷ This dryness is related to the decreased ability of sebum to coat the hair adequately. Therefore moisturizing maintenance hair styling products are used frequently to add shine and assist with combing and manageability.^{6,8}

Ethnic Hairstyles and Hair Grooming Practices

Black hair styling is extremely diverse. The hair often needs higher levels of attention to achieve manageability, convenience and style. Although some blacks choose natural or chemical-free hair styles (see **Natural Alternatives to Hair Straightening**), others commonly use techniques of hair straightening, which can be achieved by either thermal (hot-combing) or chemical (hair relaxing) means.

Thermal straightening: Thermal straightening is a temporary process that involves hydrogen bond rearrangement within the hair shaft. This process is accomplished by lubricating the hair

with pressing oil, containing substances such as mineral oil, petrolatum, ceresin wax or cetyl alcohol, and combing the hair in sections with a metal comb heated to 300–500°F. Because this method is temporary, exposure to shampooing, water or humidity can cause reversion and return the hair to its natural curly state.⁶

Chemical straightening: In contrast, chemical straightening is the permanent rearrangement of disulfide bonds within the hair shaft. The process uses several principal chemical agents: sodium hydroxides (lye relaxers), lithium and guanidine hydroxides (no-lye relaxers), and ammonium thioglycolate (permanent waves, curly perms). It has been estimated that approximately 70–80% of black women chemically relax their hair⁶ and require “touch-ups” to straighten the new growth every 6–8 weeks.

Natural Alternatives to Hair Straightening

Natural or “chemical-free” hairstyles include afro, braids, twists, and locks.

- Afro - Natural curly hair is trimmed evenly at different lengths.
- Braids - Natural hair is braided in sections closely to the scalp (cornrows) or in individual braids; hair extensions can be added for fullness or length.
- Twists - Natural hair is divided into two sections, wrapped and held together by styling gel or beeswax.
- Locks - Formed by allowing the twisted hair to permanently intertwine and interlock

Interestingly, in a shift that has clinical significance, more and more women are accepting these hair styles and abandoning the straighter hair styles.

Common Hair and Scalp Disorders in Blacks

Several hair and scalp disorders occur more often in the black populations (see **Common Ethnic Hair and Scalp Disorders**). Halder et al. in 1983 examined the most common conditions seen in a predominantly black dermatology practice. Among the top five conditions were seborrheic dermatitis and alopecia.⁹ We will discuss clinical observations and treatment strategies for seborrheic dermatitis, psedofolliculitis barbae, traction alopecia and central centrifugal cicatricial alopecia.

Common Ethnic Hair and Scalp Disorders

Seborrheic dermatitis – chronic papulosquamous disorder affecting sebaceous-rich areas

Irritant contact dermatitis – dermatitis caused by hair care products resulting in inflammation

Allergic contact dermatitis – allergic reaction of the scalp resulting from hair care products

Traction alopecia – hair loss occurring in the fronto-temporal areas due to mechanical loosening of the hair from the follicle

Central centrifugal cicatricial alopecia – hair loss affecting the crown and vertex of the scalp resulting in scarring

Acne keloidalis – chronic inflammatory condition resulting in papules and/or pustules on the nape of neck and occipital scalp

Dissecting cellulitis – chronic inflammatory disorder of the scalp resulting in tender cysts and sinus tracts

Pseudofolliculitis barbae – (known as razor bumps) a common condition of the beard area resulting when curved hairs grow back into the skin causing inflammation and, over time, keloidal scarring

Tinea capitis – a fungal infection of the scalp seen mainly in children

Cutaneous sarcoidosis – multisystem granulomatous disease that targets the lungs, lymph nodes and skin

Discoid lupus erythematosus – Autoimmune disease of the skin that can result in scarring alopecia

Seborrheic dermatitis: Seborrheic dermatitis is a chronic papulosquamous disease of sebum rich areas of skin that is caused by an inflammatory response to yeast, *Malassezia furfur* (*Pityrosporum ovale*). The incidence varies from 2-5% of the total population. Although no racial or ethnic predisposition has been reported in the literature, the incidence may be higher in black women due to the frequency of hair washing. While males with short natural hair cuts wash their hair daily, many black females wash their hair less frequently, from once per week to every four weeks, depending upon their current hairstyle. Thus, an overgrowth of yeast occurs and may place this population at a higher incidence of scalp dermatoses.

Besides the common erythema and scaling or “dry scalp” appearance that is characteristic of seborrheic dermatitis, hypopigmentation or hyperpigmentation of the skin and scalp may also occur. Common locations include the scalp, anterior hair line, forehead, eyebrows, eyelashes, ears and malar areas of the face. In men, the condition may appear in the mustache, beard and chest areas. Pruritus of the scalp is the most common symptom.

Treatment strategies consist of over-the-counter (OTC) or prescription-strength anti-dandruff shampoos. Common ingredients include: sulfur, salicylic acid, tar derivatives, zinc pyrithione (ZPT), tea-tree oil, sulfacetamide, ketoconazole or ciclopirox (anti-fungals) and fluocinolone acetonide (corticosteroid).

Because these agents can cause excessive dryness of black hair, after-shampooing conditioners and daily moisturizing lotions must be used as part of the treatment regimen. In moderate to severe cases of seborrheic dermatitis, a decrease in hair washing is recommended as well as daily application of a topical corticosteroid between hair washings. The vehicle selected must be carefully chosen and compatible with the hair styling practices of the patient. Traditionally, these patients are frequently prescribed ointment-based topical corticosteroids. More recently, foam-based treatments have been found to be efficacious and cosmetically acceptable.¹⁰

Traction alopecia: Traction alopecia, also known as traumatic alopecia marginalis, is a condition of hair loss commonly seen in black women and children¹¹ who prefer hairstyles (such as tight braids, ponytails, weaves and dreadlocks) that cause tension on the hair.^{6,11,12} Hair rollers have also been implicated as a factor in traction alopecia.¹³

The mechanism of hair loss is thought to be mechanical loosening of the hairs from the follicle with an associated perifolliculitis of the scalp.⁹ The condition is observed in patients showing symmetrical hair loss in the fronto-temporal areas of the scalp, with hair loss in the occipital area being less common.⁹ Sustained tension on the hair can result in follicular atrophy, leaving only thinner vellus hairs intact. This hair loss may also be accompanied by perifollicular erythema, papules, pustules and/or a seborrhea-like hyperkeratosis.⁹

Treatment of traction alopecia involves discontinuing hairstyles