Cultural Dermatoses: A Review

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Abstract

Minorities are expected to make up more than half of the U.S. population by 2044 and of the U.S. child population much sooner. Meanwhile, between 2012 and 2016, the number of insured individuals among minority groups such as Blacks, Hispanics, and non-white non-Hispanics increased significantly. As demographics continue to change, and as more minority individuals gain access to healthcare, dermatology practices will see a shift toward a minority patient base. Recognizing and understanding dermatoses linked to non-U.S. cultural practices will be invaluable for maintaining thriving patient-physician relationships and achieving successful clinical outcomes. In this review, we describe various cultural dermatoses—skin conditions caused by culture-specific therapeutic, cosmetic, and/or religious practices—of ethnic and racial groups found in the United States.

Introduction

The population of the United States is becoming increasingly diverse as the growth of the minority population outpaces the growth of the non-Hispanic White population. Recent projections estimate more than half of the U.S. populace will belong to a minority group (any group other than non-Hispanic White) by 2044. When the minority population accounts for more than 50% of the total U.S. population, the U.S. will be what some have described as a “majority-minority” nation.1 The child population in the United States is even more diverse and is expected to experience the “majority-minority” crossover much sooner.2 Additionally, the U.S. Census Bureau estimates that in 2015, the foreign-born segment of the U.S. population was the highest since 1910, comprising 13.5% of the populace. That number is projected to increase to approximately 20% by 2060.3 In 2015, the U.S. foreign-born population was born in Africa (~5%), the Americas (~53%), Asia (~30.6%) and Europe (~11.1%).2

The Patient Protection and Affordable Care Act (PPACA), commonly known as Obamacare, was enacted in 2010. A U.S. Department of Health and Human Services report indicates that between 2012 and 2016, reduction in the uninsured rate was greatest among Black non-Hispanics, with 3 million people gaining health-insurance coverage.3 The second highest reduction was seen among Hispanic adults, with 4 million gaining health-insurance coverage.3

As the population makeup of the United States continues to change, and as more people gain access to healthcare, it is likely that dermatology practices across the nation will see a shift in their patient base. In this review, we attempt to raise awareness about both therapeutic and cosmetic cultural practices of various ethnic and religious groups and review associated dermatological manifestations associated with those practices.

Cultural Practices and Associated Conditions

Cupping

Cupping is a technique used widely in the Asian, Latin American, Middle Eastern, and Eastern European cultures.4,5 In the United States, cupping is practiced primarily by Russian immigrants.5 It has been used for treating a wide range of ailments such as fever, congestion, pneumonia, asthma, acne, abdominal discomfort, acute myelitis, lower back pain, headaches, and nephritis.5,6 It has also been used to eliminate toxins from the body.6 The areas used for cupping most commonly include the back, chest, abdomen, and buttocks.6 The mechanism of cupping is based on creating a vacuum effect. This is achieved by lighting an alcohol-soaked cotton ball or piece of paper and placing it in a cup. The cup is inverted onto the skin, the flame gets terminated due to lack of oxygen, and air begins to cool, creating a vacuum. This leads to the suction of the skin into the cup and subsequent damage of superficial blood vessels in the papillary dermis, resulting in circular erythema or ecchymosis (Figure 1).6 These circular burns in a child who was treated with cupping therapy might be easily mistaken for child abuse.7 Although circular, ecchymotic lesions are the most common presentation of cupping, linear purpuric streaks can also be seen if a lubricant is used to move the cup around to cover a larger area.7

Moxibustion

Moxibustion is commonly practiced in Asian cultures.6,5 This therapy is used for treating fever, asthma, atopic dermatitis, and abdominal pain and consists of burning moxa herb (Artemisia vulgaris) either on the skin or very close to the skin.5,6 Indirect moxibustion, the more commonly used variant, involves burning of the moxa stick near the skin until it becomes erythematous. A less-common variant of this technique, direct moxibustion, entails burning cones of the wood directly on the skin, leading to second-degree burns.7 Although most lesions caused by moxibustion are transient, permanent scarring has been reported.10 Similarly to those produced by cupping, these lesions might be mistaken for signs of abuse in adults and children.5

Coining

Coining (cao gio in Vietnamese) or spooning (gua sha in Chinese) is a widely used technique in Asian cultures in Vietnam, China, Thailand, Malaysia, and Indonesia.10,11 This therapy is used to treat fever, flu, headaches, and myalgia and is believed to improve these symptoms by improving circulation in soft tissues.11 Coining is performed by applying water or aromatic oils onto the skin of the chest and back and subsequently rubbing the skin with a coin in a downward motion until the skin is reddened.11 While a coin is widely used in this remedy, the literature also reports use of several other tools, such as combs and porcelain spoons. Coining usually leads to parallel ecchymotic streaks or petechiae on the skin of the affected patients and may even lead to burns, as the oiled skin has been reported to catch fire.11

Possible causes of allergic contact dermatitis

Capsaicin treatment

Capsaicin is an active component of the chili peppers commonly used as condiments in Latin-American food preparations.12,13 Topical capsaicin preparations have been safely and successfully used in various fields of medicine. For instance, the agent has been used by dermatologists for a wide range of conditions, such as neurogenic pain or pruritus, brachialpudal pruritus, pruritus of hemodialysis, aquagenic pruritus, pruritus ani, apocrine chromhidrosis, lichen simplex chronicus, lipodermatosclerosis, and alopecia areata.14,15 However, peeling the peppers with bare hands while cooking may lead to erythema, edema, burning pain, and irritation.14 It is important to keep capsaicin dermatitis on the differential because patients may not recall the exposure, as handling the peppers is part of their routine.

To alleviate the symptoms of capsaicin dermatitis, patients are advised to wash their hands with soap and water and apply vegetable oil. The use of high-potency corticosteroids and topical anesthetics has also been reported.14 Furthermore, to prevent this condition, patients are advised to wear gloves when peeling the peppers.

Toothpaste

Toothpaste-induced allergic contact dermatitis usually affects the index finger of individuals from Southeast Asia who use their index finger to rub toothpaste over their teeth. In one report, toothpaste-induced allergic contact dermatitis...
of the index finger presented concurrently with dermatitis of the lip.17

**Colored string**
Colored-string-induced allergic contact dermatitis results from wearing colored strings around the neck, arms, or waist and is common in South Asian individuals. These strings may cause skin friction, leading to allergic reactions. Furthermore, depigmentation may develop at the sites of skin contact due to the chemicals in the string, leading to linear leukoderma.20

**Drawstring dermatitis**
Drawstring dermatitis results from wearing the traditional clothes favored by many South Asians. Clothes like the sari, a traditional dress worn by women in India, Pakistan, Bangladesh, and Sri Lanka, and salwaar, the baggy trousers worn by men and women from the same cultures, are tightly tied with a drawstring at the waist. This results in friction and may cause irritation as well as lead tolichenification, post-inflammatory leukoderma, hyperpigmentation, and koebnerization of existing dermatoses like vitiligo and lichen planus.19,20

A case of squamous cell carcinoma at the drawstring-friction site has also been reported.19

Loose drawstrings have been recommended to prevent this condition. Weight reduction is also recommended in these patients since fatty tissue is proinflammatory and a major source of tumor necrosis factor-alpha, which may lead to significant inflammatory response.21

**Bindi**
Bindi, also known as *kumkum* or *tilak*, is a disc-shaped ornament worn by Indian women for socio-religious purposes.4 It is applied to the forehead, between the eyebrows, to indicate marital status, but can also be worn as a fashion accessory.12,22 Historically, the bindi has been made from turmeric pastes with addition of various dyes to complement the color of the dress. Also, bindi discs have been made of nickel or polyvinyl chloride with a resinous adhesive material.21,24 Several adverse reactions to bindi materials have been reported, including allergic dermatitis, contact leukoderma, hyperpigmentation, and foreign-body granuloma.43,45 Reports in the published literature describe contact dermatitis to nickel dyes, such as Brilliant Lake Red R, Disperse Blue 124, and Disperse Blue 106, as well as chemical additives, such as thimerosal and gallocate and gallate mix and para-tertiary-butylphenol.42-24

**Henna**
Henna, also known as *bina*, is a natural dye derived from the leaves of the *Lawsonia inermis* plant. This product is frequently used to dye skin, hair, fingernails, leather, silk, and fur.26 Although widely used in South Asian, Middle Eastern, and North African cultures, many reported cases of adverse dermatologic reactions to henna involve patients who were not part of these cultures and received a henna tattoo or were otherwise exposed to henna products.27 Pure henna, known as “red henna,” is hypoallergenic and has rarely been associated with adverse reactions, with only two reported cases of red-henna contact dermatitis in the literature.4,28 However, there are multiple reports of contact dermatitis associated with “black henna,” a preparation consisting of red henna and pigment enhancers such as coffee, black tea, animal urine, and paraphenylenediamine (PPD).42,47 PPD is a coal-tar dye that not only enhances darker pigment but also shortens drying time, reducing the time required for henna sessions from 12 hours (when red henna is used) to less than two hours.29 PPD-enhanced black henna has been associated with not only allergic contact dermatitis but also papulovesicular eruptions, bullae formation, and erythema multiforme-like reactions.29,28,30,31 Emerging evidence of long-term or even permanent adverse effects associated with the use of PPD-enhanced black henna are particularly concerning. Leukoderma, post-inflammatory hyperpigmentation, keloids, and type I hypersensitivity reaction leading to angioedema and acute renal failure have been described in the published literature.31 Since the practice of henna is an integral part of spiritual and traditional rituals in many cultures, it is important to educate patients about potential side effects of black-henna preparations and advise them to choose red henna as their decorative agent of choice.

**Acne**

**Pomade acne**
Pomade acne is a skin condition caused by pomades, substances used to straighten hair and lubricate the scalp. Pomade contains high-melting hydrocarbons that allow the substance to stay in the hair longer than gels and sprays.31 Pomade acne primarily affects individuals from African American and Latin American cultures.10,33 Clinically, these lesions manifest as perifollicular papules, pustules, and closed comedones and occur on the forehead, temples, and cheeks.10,35,36

**Steroidal acne**
Steroidal acne is caused by excessive use of potent topical corticosteroids on the face. These lesions usually present in individuals from Asian cultures with darker skin types who use topical steroids to lighten their skin.51

**Acquired trichorrhexis nodosa**
Acquired trichorrhexis nodosa is a hair disorder that results from external physical or chemical insults that damage the hair shaft. The proximal variant of trichorrhexis nodosa affects proximal hair and is most common among African Americans.10 This condition is caused by excessive hair straightening with hot combs and ceramic flat irons, permanent waves, brushing and combing, or use of chemicals and hair dyes.35,37 The examination of hair will reveal one or more nodes presenting as white specks on the affected hair shaft. Since breakage of the hair occurs close to the skin surface, patients may present with areas of alopecia.10,38 The distal variant of trichorrhexis nodosa is more common in White or Asian individuals. This variant is characterized by nodes and breakage that occur several inches from the scalp, producing hair that appears uneven. This condition is caused by excessive hair styling and is commonly associated with longitudinal splitting, commonly known as split ends.38

**Traction alopecia**
Traction alopecia is a hair-loss disorder that commonly presents in the African American population and in men practicing the Sikh religion (Figure 2).10,39 Like acquired trichorrhexis nodosa, traction alopecia results from physical insults to the hair. Various styling techniques, such as braiding, cornrowing, and tightly rolling the hair, have been associated with this condition.10 Sikh men tie their hair into a tight knot on the vertex area of the head and twist facial hair into a knot under the chin.10 Early recognition and diagnosis of traction alopecia is important as it can be reversed if hairstyle modifications are made. Sikh individuals should be advised to tie hair loosely during the day and leave it untied during the night.40

**Prayer nodules**
Prayer nodules are painless calluses that occur in response to repeated pressure to the skin while praying. These nodules have been reported in individuals of Christian, Buddhist, and Muslim faiths and are most common in elderly Latin-American women and Muslim men.40,42 These lesions have most commonly been reported on the knees, ankles, and dorsum of the feet in these populations.40,41 Among Muslims, the forehead is also a common location. Position modification while praying can prevent these nodules, and topical use of 40% urea ointment can be used to treat them.44

**Scarring**
Scarring is practiced in many parts of Africa for aesthetic and cultural purposes, with scars indicating rank in society, family, clan, and tribe and also serving as decoration.40 Sometimes scarring is performed on youth for medical reasons. For example, in Ethiopia, placing superficial scars around the eye is believed to prevent eye disease and improve vision (Figure 3). Some governments are now banning this practice, considering it child abuse and a contributor to the spread of HIV.

**Pearling**
Pearling, also known as penile beading, is the practice of permanently implanting small objects...
beneath penile skin, most commonly that of the dorsal surface of the shaft (Figure 4). Typically, the implanted objects are beads made from a wide range of materials, including metal, glass, and silicon. The custom of implanting foreign materials under the penile skin has been practiced in Asia and the Pacific region for hundreds of years. These implants have served as “charms” in Asian cultures, believed to prevent the shrinking of the penis, a fear attributed to koro syndrome, which involves the delusional belief that the genitalia are retracting and disappearing, possibly causing death. In the 18th century, pearling was widely practiced among Japanese Yakuza gangsters, who implanted pearls under penile skin to pledge loyalty to the clan, with pearls indicating the number of years spent in prison. More recently, pearling has become more popular in the U.S. inmate population. A review of the published literature describing pearling in prisoners indicates implanted beads have been made from materials such as spoons, dominos, buttons, toothbrushes, rubber erasers, dice, and even deodorant roller balls.46–50 Pearling has been associated with a range of complications such as edema, subcutaneous hematoma, infection, abscess, and erectile dysfunction and may also lead to increases in transmission of HIV and other sexually transmitted infections.47,48

Gingival Tattooing

Gingival tattooing is practiced in Ethiopia and some other populations in the African sub-Saharan region known as the Sahel (Figure 5). Today it is primarily performed for cosmetic purposes; however, some still believe it helps with dental disease and pain management. The tattoo process uses a needle dipped in a paste made primarily of ash. The needle repeatedly punctures the gingiva, working the paste into the tissue. Medical practitioners not familiar with this practice might confuse the presentation with drug-induced hyperpigmentation (e.g., from minocycline), heavy-metal ingestion (e.g., lead toxic effect), amalgam tattoo, smoker’s melanosis, or Addison’s disease.54

Conclusion

As the United States becomes ever more diverse, dermatoses caused by therapeutic, cosmetic and religious practices will be more commonly seen by dermatologists across the country. Practices such as cupping, moxibustion, and coining cause erythema and may lead to burns. Using condiments containing capsaicin while cooking, rubbing toothpaste with the index finger to brush teeth, wearing colored strings or drawstrings, and applying a bindi may cause allergic contact dermatitis. PPD-enhanced black henna may lead to both cutaneous and systemic complications, while use of pomades and steroids may cause acne. Hairstyling techniques and chemicals are associated with acquired trichorrhexis nodosa and traction alopecia in certain populations. Long and frequent prayers lead to calluses known as prayer nodules. Penile beading may lead to significant genitourinary complications. Understanding these cultural dermatoses will promote a better physician–patient relationship, decrease misdiagnoses, encourage patients to adhere to treatment plans, and possibly result in patents refraining from certain problematic practices.

References


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