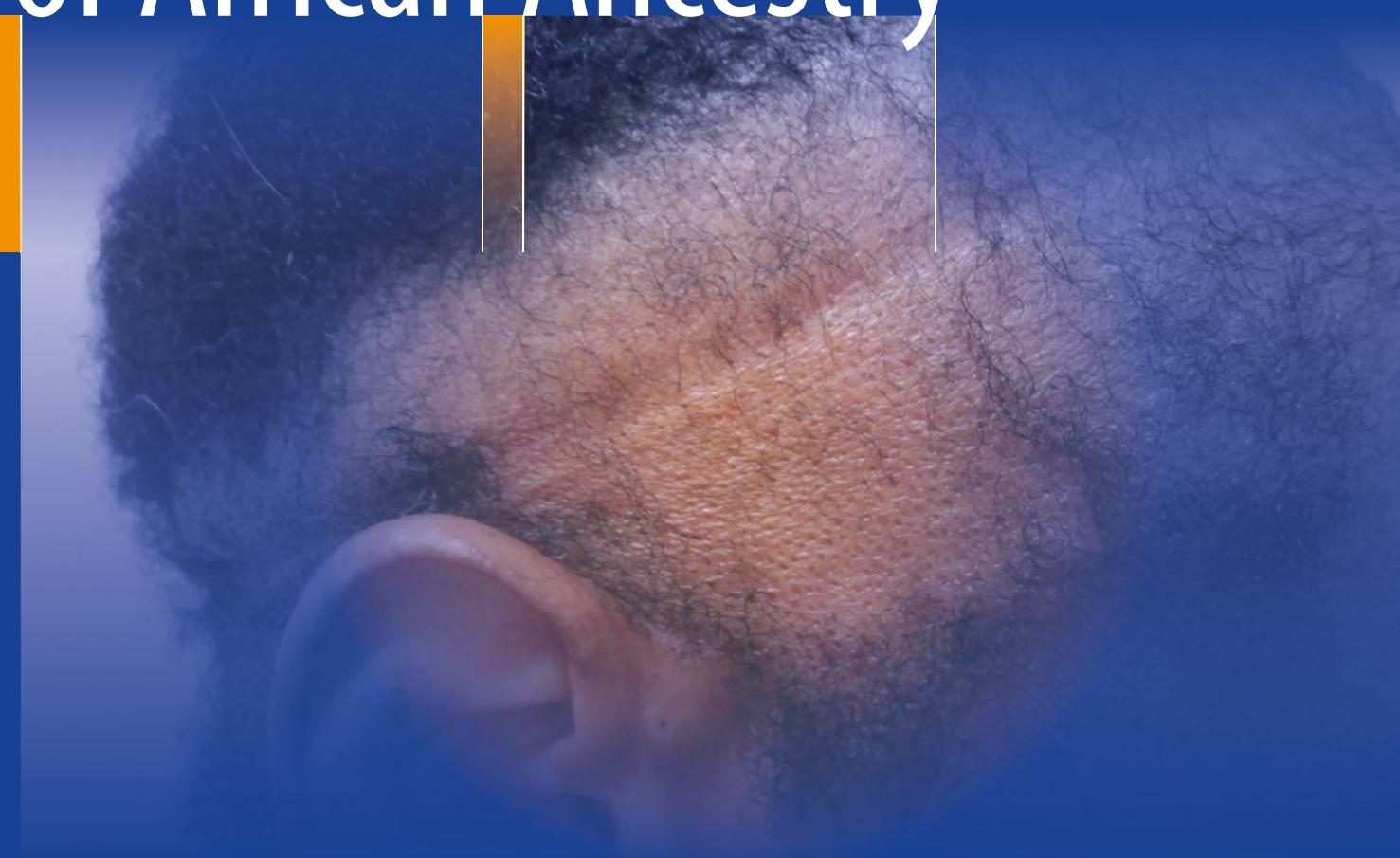


Claudia M.Y.A. Donkor · Jeannette Aryee-Boi
Itohan Roseline Osazuwa · Francis Kwame Afflu
Andrew F. Alexis

Atlas of Dermatological Conditions in Populations of African Ancestry



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Foreword 1

Globally, there is a myriad of dermatology atlases that are available; however, only a few address dermatoses and challenges that are relevant to people of African ancestry. Thus making the atlas relevant, especially in the light of increasing migration across all borders, with numerous dermatologists globally being exposed to individuals of African descent.

The authors of the atlas have an incredible knowledge and vast experience spanning decades in managing skin conditions in this population. They, individually, are experts in their fields, with most of them having worked under limited resources in Africa. Together, Claudia, Jeannette, Roseline, Francis and Andrew form a formidable dermatological force, bringing to your consulting rooms, teaching spaces, coffee tables (and indeed every nook and cranny where knowledge is gained and shared!) a rich adeptness in the identification and management of common and some complex skin conditions in Black skin.

In my experience (and I constantly tell my students and residents this), repetition births familiarity and familiarity births competence. This is what I am hopeful will be the outcome for all who make good use of this atlas. Recognition of cases, as featured in this book, will hopefully make diagnosing and managing dermatological conditions, especially in Black skin, less daunting.

I commend the approach of less verbiage and more pictures in this atlas, making it easy to make quick references to, during our often busy clinical schedules. I hope that the atlas is as useful to you as it is intended to be.

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Foreword 2

Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.

– Samuel Johnson, Boswell's Life of Johnson

An in-depth plus first-hand treatment of interesting cases in my five decades of practice in Africa pushes the fact that routine approach to dermatology gradually gets outmoded and therapy on treatment of cutaneous diseases keeps metamorphosing and, quite obviously, varies per climatic region. Most literature will become archaic eventually, but at least they can serve as a trampoline in the field of diagnosing, development of new alternative therapies, prescription of specific drugs and their administration.

Purposely, this *Atlas of Dermatological Conditions in Populations of African Ancestry* will serve as a practical reference for both practitioners and knowledge seekers, building on knowledge for the future, especially with regards to tropical skin problems, which may be encountered daily by many practitioners.

In addition, as I always say, “*there is nothing like enough knowledge*” and different perspectives always serve a greater good in problem solving, and therefore the efforts of the writers of this all-important atlas is commendable; it is brilliant work for the greater good of our field of work.

Edmund Nminyem Delle
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Preface

Dermatology is a unique medical discipline with a language of its own, as well as having multi-national facets, based on the plethora of presentations for different skin types. This *Atlas of Dermatological Conditions in Populations of African Ancestry* has been a dream of ours, which we are happy to finally see come to fruition. We felt it was relevant to pursue this project because most existing dermatology atlases cater to Caucasian and Asian skin, with few tackling African skin. The peculiarity of dermatology in Sub-Saharan Africa is not only the dark pigmentation of the patient's skin and the occurrence of tropical infections, but also the often unfavorable socio-economic conditions patients find themselves in, which contribute to the development of (and the unique features) of particular skin diseases.

Presentation of skin conditions in Africans differ from other skin types. For example, erythema tends to appear generally as a spectrum of hues, with post-inflammatory hyperpigmentation developing secondarily to a great number of conditions.

Practicing dermatology in Africa, in particular, offers a wide range of challenges stemming from cultural and social practices, as well as delayed presentations for medical care. To avoid unaffordable consultation fees, patients resort to self-medication, including the application of unorthodox methods, ranging from toothpaste to brake fluid, lemon juice, and herbal concoctions of unknown content. Very often the use of the "so called triple action creams," which contain antimicrobial agents and potent or very potent corticosteroids, leads to numerous side effects and masks the primary condition. Primary lesions are rarely seen and secondary lesions are often altered by these agents. Late first presentations frequently result in unusually severe or advanced stages of disease.

Another major hurdle faced is skin bleaching or, using a more socially acceptable terminology, "skin lightening or toning," which is on the rise, involving lately not only women. Knowledge about the products used and the side effects encountered is primordial to be able to provide effective counselling.

The global world we live in today confronts health professionals worldwide with African patients, and the aim of this atlas is to provide a better understanding and an easy identification of the myriad of skin conditions with which they present.

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Eczema

Eczema, which is often interchanged with dermatitis, is a broad description of several skin conditions. It generally is a pruritic papulovesicular dermatological entity, which occurs as a reaction to a variety of exogenous and endogenous mediators. The inflammatory reaction can involve the epidermis and dermis, with varied presentations. This may include pruritus, vesiculation, erythema, xerosis, hyperkeratosis, lichenification, and fissuring, depending on whether it is acute or chronic, as well as the degree of skin involvement. Histologically, an eczematous skin may exhibit spongiosis, elongated rete pegs, exocytosis, parakeratosis, varied degrees of dermal edema, and perivascular infiltration by inflammatory cells like lymphocytes, eosinophils, histiocytes, and neutrophils.

There are several sub-types of eczema, including atopic dermatitis, dyshidrotic eczema, lichen simplex chronicus, nummular eczema, nodular prurigo, irritant and allergic contact dermatitis.

Atopic Dermatitis

Atopic dermatitis or atopic eczema is a common disorder in childhood, with global figures being about 20% of the population of children. It is part of the atopic conditions, namely allergic rhinitis and asthma, and it tends to present early in most patients, with about 30% of adulthood sufferers. There may be a family history of atopic tendency. Prevalence in Africa varies with some studies in South Africa suggesting 13.3% in the 13- to 14-year groups, 8.3% in Nigeria, and 1.2% in Ethiopia. It is a pruritic, inflammatory disorder and the resultant of an interplay of genetic and environmental factors. Due to the defective skin barrier function, some features may include xerosis, excoriations, lichenification, vesiculation, hyperkeratosis, fissures, and crusting. Secondary bacterial (commonly *Staphylococcus*) and viral (*Herpes simplex*) infections may also be present (Fig. 1.1). Although atopic dermatitis can be generalized, flexural surfaces like the elbow and knee and the face are common sites

affected (Figs. 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, and 1.9). Koebner phenomenon (Fig. 1.10) and excoriation marks (Fig. 1.11) may also be seen in atopic dermatitis due to the repeated rubbing of the skin as a result of the pruritic nature of the condition. Exfoliative dermatitis/erythroderma may also be a complication of atopic dermatitis with extensive exfoliation, erythema, xerosis, pruritus, fever, and malaise (Figs. 1.12 and 1.13a, b). Ichthyosis vulgaris may also be associated with atopic dermatitis, with the degree of severity ranging from mild to severe (Figs. 1.14 and 1.15).

Diagnosis is predominantly clinical with adjunct investigations being skin biopsy, serum IgE levels, patch testing, skin prick test, cultures, and virological tests. Education of patients and caregivers is crucial in the management of atopic dermatitis due to its chronicity and its impact on quality of life. Hydration, frequent application of emollients, topical anti-inflammatory agents like glucocorticoids and calcineurin inhibitors, antihistamines, and phototherapy may help alleviate symptoms.

Atopic Dermatitis in Pigmented/Ethnic Skin

Presentation of eczema in pigmented skin may vary slightly or significantly in comparison to classic features in Caucasians. Of note are conspicuous follicular papules (hence some references of “follicular eczema”) and the involvement of extensors (Figs. 1.16a, b and 1.17), with or without presentation in flexural sites. Lichenoid presentation of atopic dermatitis is also prominent in black skin (Fig. 1.18). Due to the pigmentation in black skin, erythema may not be visualized as the classic redness, or it may not be easily detected by an inexperienced eye. Presentation of erythema may look grayish, violaceous, and dark or reddish brown (Figs. 1.19 and 1.20). Additionally, post-inflammatory color changes (hypopigmentation or hyperpigmentation) are common in persons of African ancestry who develop eczema (among other dermatological conditions).

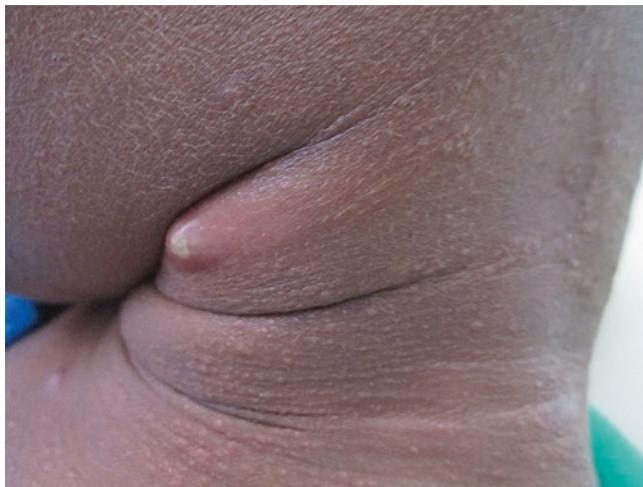


Fig. 1.1 Secondary bacterial infection in atopic dermatitis. Three-year-old boy with a furuncle on his neck. History of chronic atopic eczema. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.2 Flexural atopic dermatitis. Atopic dermatitis (pruritic, lichenified, hyperpigmented papules) at the popliteal fossa in a 4-year-old boy. (© Dr. C.M.Y.A. Donkor 2021)

Several theories have been suggested for the variation. Some include genetic mutations (Filaggrin), increased water loss trans-epidermally, and higher rates of cell turnover.

Irritant and Allergic Contact Dermatitis

These types of dermatitis result from chemical irritation and a type IV hypersensitivity reaction by an allergen, respectively. They may be acute or chronic, with the former requiring just a single exposure to trigger a reaction, depending on the concentration. There may be stinging, burning sensation, papules, vesicles, pustules, blisters, erythema, xerosis, fissures, and scaling on presentation.



Fig. 1.3 Flexural atopic dermatitis. Generalized atopic dermatitis with prominence on the antecubital fossa and trunk of a 4-year-old boy. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.4 Flexural atopic dermatitis. Toddler with history of atopic eczema. Evidence of xerosis and atrophy at left antecubital fossa. (© Dr. J. Aryee-Boi 2021)



Fig. 1.5 Flexural atopic dermatitis. Atopic eczema on both wrists of a patient shows skin thickening and exaggerated skin markings (lichenification) from constant rubbing. (© Dr. F.K. Afflu 2021)



Fig. 1.6 Flexural atopic dermatitis. A 7-year-old boy with chronic eczema exhibiting xerosis on his left popliteal fossa. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.7 Flexural atopic dermatitis. Patient with chronic eczema on the right antecubital fossa. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.8 Atopic dermatitis – facial involvement. Toddler with eczema on face, prominent on both cheeks, where xerosis is visible. (© Dr. F.K. Afflu 2021)

In irritant contact dermatitis, the common site is the hand and substances that may trigger this include soaps/shampoos/cleansers, detergents, nickel, plants, alcohol, and industrial solvents (Figs. 1.21, 1.22, 1.23, 1.24, and 1.25a, b). Due to irritation by common industrial and commercial substances, they can be an occupational impediment.

Allergic contact dermatitis may occur on exposure to allergens such as fragrances, jewelry (nickel etc.), plants, hair dyes, cosmetics, latex, parabens, plants, and some drugs.



Fig. 1.9 Atopic dermatitis. Infant boy with eczema on face and upper trunk. Post-inflammatory hypopigmentation is evident. (© Dr. F.K. Afflu 2021)



Fig. 1.11 Itchy atopic dermatitis. Atopic eczema with excoriation marks on the back of a 7-year-old boy. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.10 Koebner phenomenon in atopic dermatitis. Flexural atopic dermatitis with Koebner phenomenon and lichenification in a 9-year-old boy. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.12 Erythroderma and congenital ichthyosis. Erythroderma in a 14-month old baby. (© Dr. J. Aryee-Boi 2021)

Fig. 1.13 (a) and (b)**Exfoliative dermatitis.**

Extensive, generalized exfoliative dermatitis in a woman in her fifties. Picture shows exfoliation on her arms, face, and chest. Lost patient to follow-up for further investigations. (© Dr. C.M.Y.A. Donkor 2021)

**Fig. 1.14 Ichthyosis vulgaris in atopic dermatitis.** Excessive dry skin/ichthyosis on a baby girl with atopic dermatitis. (© Dr. J. Aryee-Boi 2021)**Fig. 1.15 Ichthyosis vulgaris.** Ichthyosis vulgaris on the shins of a woman in her thirties. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.16 (a) and (b) Atopic dermatitis involving the extensors. Elderly woman with eczema presenting on her elbows and knees. (© Dr. F.K. Afflu 2021)



Fig. 1.17 Atopic dermatitis involving the extensors. Eczema on the knees of a teenage patient. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.19 Atopic dermatitis in black skin. Violaceous hue seen on the back of a patient with atopic dermatitis, instead of the well-known erythema in other skin types. (© Dr. A. Alexis 2021)



Fig. 1.18 Lichenified hand eczema. Ten-year-old boy with hyperpigmented, lichenification plaques and papules on hands from repeated rubbing and scratching secondary to pruritus. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.20 Atopic dermatitis in black skin. Eczematous patches in the genital and anal area of a male child. (© Dr. K.A. Brifo 2021)



Fig. 1.23 Hand eczema in black skin. Eczematous plaques with violaceous hues and crusting on both palms of a patient. (© Dr. K.A. Brifo 2021)



Fig. 1.21 Phytodermatitis. Linear streaks on the left forearm of a young woman from exposure to an unknown plant. (© Dr. I.R. Osazuwa 2021)



Fig. 1.24 Irritant contact dermatitis. Irritant contact dermatitis secondary to worn spectacles seen on the ears of a patient. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.22 Phytodermatitis. Multiple papules and Koebner phenomenon/response seen on the forearm of a woman in her twenties who was exposed to an unknown plant. (© Dr. C.M.Y.A. Donkor 2021)

Unlike irritant contact dermatitis that can occur at any time and is applicable to anyone, usually, allergic contact dermatitis is peculiar to those sensitized to the allergen. Investigations that may be conducted for both comprise skin biopsy and patch testing.

People with underlying atopic dermatitis are more susceptible to irritant and allergic contact dermatitis. For example, in a study in Ghana, it was illustrated that in children with eczema, their serum IgE were elevated with constant hand washing being a significant risk factor. Angular cheilitis/eczematous cheilitis/angular stomatitis/perlèche is also frequently seen in children with eczema due to excessive lip licking secondary to dryness (Figs. 1.26, 1.27, and 1.28). Perlèche may also be exacerbated by wearing of dentures,

Fig. 1.25 (a) and (b)
Irritant contact dermatitis.
 Irritant contact dermatitis secondary to unknown allergen seen on the neck and shoulder of a teenager. (© Dr. C.M.Y.A. Donkor 2021)



excessive salivation, nutritional deficiencies, endocrinological disorders (such as diabetes), tobacco smoking, among others. Secondary infection by agents such as bacteria and *Candida* are also well documented.

Treatment modalities for both irritant and allergic contact dermatitis involve avoiding contact with allergens or irritating agents and management with antihistamines, topical and/or oral corticosteroids, lubricating/protective topical agents and, where appropriate, wearing of protective equipment. Specific treatment for conditions such as perlèche depends on the underlying cause. For example, if it is due to infectious agents such as *Staphylococcus* or *Streptococcus*, then antibiotics may be warranted. (See Chap. 2 for more information and images.)

Nummular Eczema

The coin-shaped plaques comprising clustered vesicles and papules, which are seen in this chronic, pruritic eczema, give nummular eczema its characteristic name (Fig. 1.29). Pruritus may be intense with dermatitis being present in a local or generalized fashion.

Its chronicity poses a challenge to management. Frequent moisturizing, application of topical steroids and coal tar, systemic antibiotics, and phototherapy have been suggested.

Dyshidrotic Eczema/Pompholyx

This type of dermatitis is usually localized on hands (fingers, palms) and feet (toes, soles) (Fig. 1.30a, b). Its nature may be acute or chronic with vesicles, bullae, fissures, lichenification, and secondary infections as some features.

Although they typically recur, each episode may respond to occlusive dressings and intralesional injections with potent glucocorticoids, antibiotics, and phototherapy.



Fig. 1.26 Cheilitis in atopic dermatitis. Chronic cheilitis in a 6-year-old girl with atopic dermatitis. (© Dr. J. Aryee-Boi 2021)



Fig. 1.27 Angular cheilitis in atopic dermatitis. Perlèche in a 7-year-old boy with atopic dermatitis. (© Dr. C.M.Y.A. Donkor 2021)



Fig. 1.28 Lip licking. Irritant contact dermatitis secondary to lip licking in an 8-year-old girl. (© Dr. C.M.Y.A. Donkor 2021)

Lichen Simplex Chronicus/Neurodermatitis

This subtype of eczema, also known as neurodermatitis circumscripta, is reported to be more common in women and it is precipitated by repetitive (often habitual) scratching or rubbing of the skin. Often, this starts as a pruritic spot, which develops into rashes when scratched. The uniquely pleasurable nature of the pruritus makes it chronic and habitual. It has also been linked to emotional stress. Other key characteristics include excoriations, lichenification, and hyperpigmentation. Like atopic dermatitis, a follicular pat-



Fig. 1.29 Nummular eczema. Coin-shaped eczematous plaques with violaceous hues on the torso of a male patient. (© Dr. K.A. Brifo 2021)

tern has been described in dark skin. Skin biopsies may support the diagnosis, although treatment may be difficult because of the compulsion associated with its etiology. Counseling is important, along with antipruritic agents, occlusive dressings (glucocorticoids, zinc oxide paste), or intralesional steroid injections (Fig. 1.31).

Nodular Prurigo/Prurigo Nodularis

This is another dermatitis that is typical in women and is aggravated by repetitive scratching and picking of a particular pruritic nodule. It often bears a relation to atopic dermatitis and hypersensitivity to allergens. On examination, dome-shaped nodules, which may be intact, excoriated or ulcerated, may be visualized. Intralesional infiltrations or occlusive dressings with glucocorticoids may ameliorate symptoms (Fig. 1.32).

Fig. 1.30 (a) and (b)
Pompholyx. Multiple pruritic vesicles and bullae on the right palm of a man with chronic pompholyx. Fig 1.30 a and b, with the 'b' being the upclose shot of the vesicles and bullae. (© Dr. F.K. Afflu 2021)

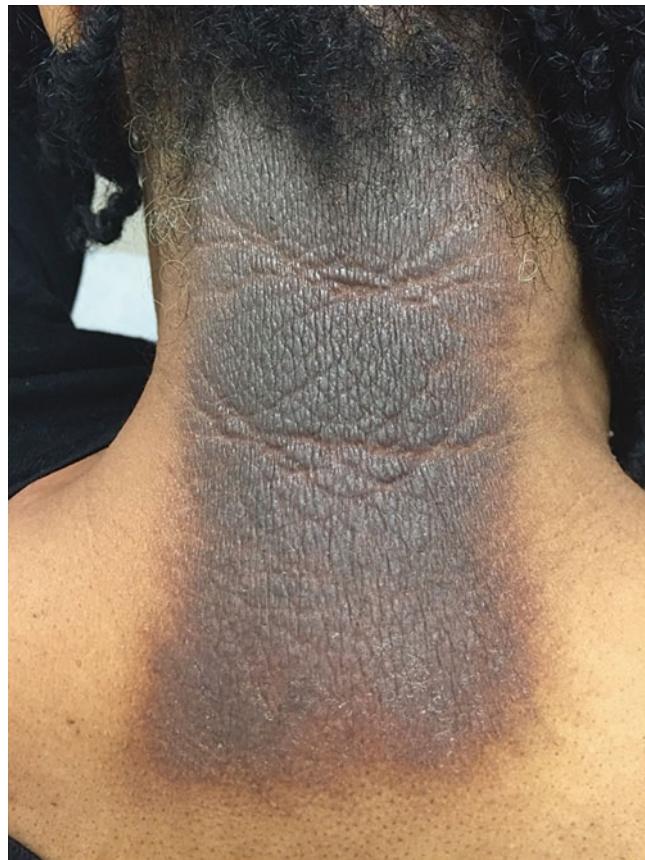


Fig. 1.31 Lichen simplex chronicus. Lichenification and hyperpigmentation seen on the nape of a woman with neurodermatitis circumscripta. (© Dr. A. Alexis 2021)



Fig. 1.32 (a) and (b) Nodular prurigo or prurigo nodularis. Pruritic, hyperpigmented nodules with excoriation marks on the left arm and legs of a patient. (© Dr. A. Alexis 2021)

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Allergies

2

Allergy or hypersensitivity reaction is an inappropriate or exaggerated response to an antigen or an allergen. The reaction can be immediate or delayed. The immune system recognizes the antigen and mounts one of the four types of response: type I, II, III, and IV hypersensitivity reactions as classified by Gell and Coombs. Type I reactions (the most common) involve IgE-mediated release of histamine and other mediators from mast cells and basophils. Type II reactions involve IgG or IgM antibodies bound to cell surface antigens with subsequent complement fixation. Type III reactions involve circulating antigen-antibody immune complexes that deposit in postcapillary venules. Type IV reactions (also called delayed hypersensitivity reactions or cell-mediated immunity) are T-cell mediated. This chapter will mainly focus on type I and type IV hypersensitivity reactions.

The global prevalence of allergy is reported to be in the range of 20–30% of the world's population. Genetic predisposition and environmental interactions are responsible. Severe allergic reactions involving the whole body may occur.

Studies on allergy and allergens have demonstrated increase in allergic symptoms with increasing gross national income, urbanization, the diets of individuals and families, lower incidence of allergies in rural Africa, and higher severity and prevalence of allergies in people of African ancestry in affluent countries than the natives of the host countries.

There is limited information on allergy and allergens in Africa, but some epidemiological reports in Africa have indicated higher prevalence of allergic sensitization in urban compared to rural communities. Most of the allergy cases in rural Africa are contact allergies that may lead to mild dermatitis and pruritus. Some reports from South Africa indicate that the common allergens accounting for more than 80% of allergies in allergic rhinitis patients are exposure to vegetation (such as plantain), agricultural pesticides and irritants, weeds (bermuda and ryegrass), farm animals, pets (cats, dogs, rabbits, horses), indoor fungal spores and pests

(such as house-dust mites, cockroaches), and outdoor parasites and arthropods. It is also reported that exposure of rural children to beds with mattresses, pillows, and blankets probably influences the development of asthma in susceptible African children.

In Cameroun, a cross-sectional study of 600 students by Mbatchou Ngahane et al. on sensitization to common aeroallergens in a population of young adults in a sub-Saharan Africa setting reported a prevalence of 42.8% of sensitization to aeroallergens. *Dermatophagoides pteronyssinus* (24.2%), *Dermatophagoides farinae* (22.8%), *Blomia tropicalis* (23.3%), and *Blatella germanica* (15.2%) were the most common allergens found. Allergic rhinitis, asthma symptoms, and family atopy were independently associated with sensitization to common aeroallergens.

Allergic Contact Dermatitis

Allergic contact dermatitis is a type IV or cell-mediated hypersensitivity reaction. Potentially almost anything from elements (metals) to compounds (cosmetics/dyes) can sensitize the skin. Frequent sensitizers include toxicodendrons (poison ivy, oak, or sumac), paraphenylenediamine, nickel, rubber compounds, ethylene diamine, potassium dichromate, and thimerosal (Figs. 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, and 2.11).

In Lagos, Nigeria, a research conducted by Yetunde Olumide in a series of 545 consecutive contact dermatitis clinic patients of whom 50.3% were men found 20.4% with hand dermatitis, 71.40% being allergic. The common sensitizers were dichromate in cement, nickel on metal gates, colophony, epoxy resins, and rubber chemicals. Forty-eight (85.7%) of the hand cases came from occupational sources, half of the patch-test-negative men worked in wet jobs. Of the 545 consecutively selected contact dermatitis clinic patients 49.7% were women, 10.7% of whom had hand dermatitis, 58.6% of which were allergic. The main sensitizers found



Fig. 2.1 Contact dermatitis. Man in his forties with hyperpigmented, lichenified, well-demarcated patches on both feet due to leather slippers. (© Dr. C.M.Y.A. Donkor 2021)

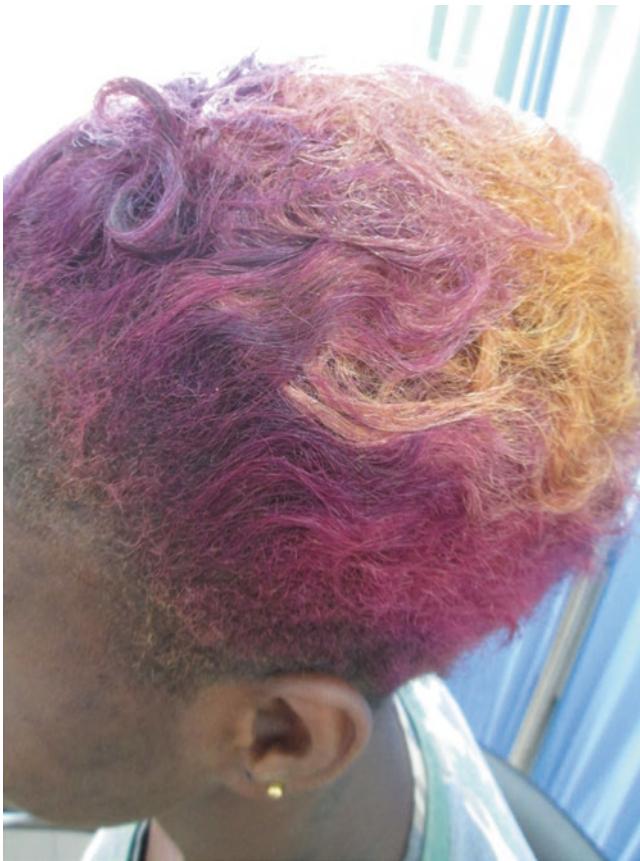


Fig. 2.2 Contact dermatitis. Allergic reaction to hair dye. (© Dr. C.M.Y.A. Donkor 2021)

were nickel and essential oils in oranges. Dress makers were mostly affected by nickel, while orange sellers and peelers



Fig. 2.3 Contact dermatitis. Allergic reaction with blistering in a 42-year-old woman secondary to tattoo. (© Dr. I.R. Osazuwa 2021)

were positive to orange peel, fragrance mix, balsam of Peru, and formaldehyde in varying combinations. Eight (27.6%) of the hand cases were due to irritants and wet jobs and possibly to allergens not tested. Twenty-four (83%) of the hand cases were occupational. Only one Nigerian woman had true housewife's hand dermatitis. Farmers have a higher risk to develop phytodermatitis and phytophotodermatitis (Fig. 2.12).



Fig. 2.4 Contact dermatitis. Allergic reaction to herbal toothpaste.
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Fig. 2.5 Contact dermatitis. Allergic reaction with leukoderma due to false toe nails. (© Dr. F.K. Afflu 2021)



Fig. 2.6 Contact dermatitis. Allergic reaction secondary to eyebrow makeup. (© Dr. J. Aryee-Boi 2021)

Urticaria can present as acute (lasts less than 6 weeks) or chronic (lasting more than 6 weeks). Acute urticaria may be related to triggers such as infections, insect bites, medications, or food allergy. It can also be triggered by non-allergic causes such as heat or exercise. Chronic spontaneous urticaria is the terminology used when symptoms persist for more than 6 weeks in the absence of inducible factors. A single cause is seldom found but a thorough history and clinical evaluation may elicit trigger factors and associated medical conditions such as auto-immune or thyroid disorders.

Triggers of urticaria are myriad, and identifying triggers and causes of urticaria through the patient's history, especially the rural and peri-urban African folk, can be very challenging.

Akinkugbe AO et al. carried out a 2-year study in Nigeria to document the predisposing factors and clinical presentations of 5360 patients, out of which 96 (1.79%) were diagnosed as having urticaria in their environment. Majority of patients – 59 (71.95%) – had chronic urticaria. Various trigger factors were demonstrated in 62 (74.4%) patients, the most common being drugs and food. Sulfa-containing drugs and non-steroidal anti-inflammatory drugs (NSAIDs) were commonly implicated drugs.

Urticaria and Angioedema

Urticaria and angioedema are characterized by pruritic hives and sometimes swelling of deeper mucocutaneous layers. Urticaria is caused by release of histamine and other mediators from mast cells. Angioedema may be histaminergic or due to factors involving the bradykinin pathway.



Fig. 2.7 Contact dermatitis. Allergic reaction secondary to eye drops.
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On examination, affected patients presented with superficial hives (Figs. 2.13, 2.14, 2.15, 2.16, 2.17, and 2.18) or deeper swelling in the case of angioedema (Fig. 2.19).

Physical Urticaria

Physical or induced urticaria arises in response to external stimuli such as stroking the skin in dermographism (Fig. 2.20), acetylcholine release during sweating in cholinergic urticaria, exposure to cold air or water in cold urticaria, exposure to water of any temperature in aquagenic urticaria, sun exposure in solar urticaria, exposure to firm pressure in delayed pressure urticarial, and contact with a vibratory stimulus in vibration urticaria.



Fig. 2.8 Contact dermatitis. Allergic reaction to rings in a 40-year-old woman showing scaly and erythematous band-like patch on left ring finger. © Dr. C.M.Y.A. Donkor 2021

Effective management measures include the identification of allergens/triggers, elimination and prevention of further exposure to the cause, and treatment with corticosteroids, antihistamines, and topical soothing agents.

Papular Urticaria

Papular urticaria is a type of allergic reaction to arthropod bites or stings, e.g., mosquitoes, fleas, mites, carpet beetles, and bed bugs. It is not a true urticaria with the lesions persisting for more than 24 hours. Fleas are the most common offenders, but in some parts of Africa, south of the Sahara, mosquitoes are the main culprits. Typically, the history includes exposure to bites or stings during outdoor activities like walking, socializing, or playing. The common clinical presentation consists of multiple, very itchy erythematous, often excoriated papules on part of the skin not protected by clothing, hence the forearms, legs, and sometimes the face. The excoriated papules might show some blistering (vesicles or bullae) (Figs. 2.21 and 2.22). This condition is very common in young children and will eventually stop after months