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A descriptive review of common dermatological diseases encountered by manual therapy providers

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Manual therapy providers such as chiropractors and physical therapists may encounter various dermatologic diseases during visits with their patients, and it is important for these providers to have astute knowledge of both benign and malignant lesions. This collaborative guide reviews many of these lesions and includes descriptions, identifying features, and clinical significance such as when to refer to a specialist. Through early detection, identification, and proper referral, manual therapy providers can play a valuable role in minimizing the effects of sinister lesions. Preventative measures and risk factors for these skin lesions are also discussed. Providing primary prevention recommendations to patients can allow manual therapy

Un examen descriptif des maladies dermatologiques courantes rencontrées par les fournisseurs de thérapie manuelle.

Les fournisseurs de thérapie manuelle comme les chiropraticiens et les physiothérapeutes peuvent rencontrer diverses maladies dermatologiques au cours des rencontres avec leurs patients et il est important que ces fournisseurs aient une meilleure connaissance des lésions bénignes et malignes. Ce guide collaboratif passe en revue bon nombre de ces lésions et comprend des descriptions, des caractéristiques identifiables et l'importance clinique, comme le moment de recommander le patient à un spécialiste. Au moyen de la détection précoce, à l'identification et à un aiguillage approprié, les fournisseurs de thérapie manuelle peuvent jouer un rôle précieux dans la réduction au minimum des effets des lésions inquiétantes. On discute également des mesures préventives et des facteurs de risque pour ces lésions cutanées. Le fait de fournir des recommandations de prévention primaire aux patients peut permettre aux fournisseurs de thérapie manuelle de

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providers to play a vital role in public health awareness of skin disease.

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KEY WORDS: chiropractic, dermatological disease, dermatology, manual therapy provider, skin lesion

jouer un rôle essentiel dans la sensibilisation du public aux maladies de la peau.

(Journal de l'ACC. 2025;69(1):19-32)

MOTS CLÉS : chiropratique, maladie dermatologique, dermatologie, fournisseur de thérapie manuelle, lésion cutanée

Introduction

The integumentary system, or skin, serves as the body's first line of defense against the external environment, protecting against pathogens and other harmful agents. Consequently, skin cells are exposed to a wide range of stressors, including ultraviolet (UV) light-induced radiation, pollution, and chemical irritants, all of which can cause localized cellular damage. To counteract this constant injury, skin cells undergo rapid proliferation to replace damaged or dead cells. However, cumulative exposure to environmental stressors can lead to genetic mutations, increasing the risk of benign and malignant skin growths.[1] Without early intervention, malignant skin growths can metastasize, often resulting in a poor prognosis with a five-year survival rate of less than 10%.[2] Early diagnosis significantly improves outcomes, and an interdisciplinary approach to evaluating suspicious skin lesions can be particularly beneficial.

Healthcare professionals, including chiropractors and physical therapists, are uniquely positioned to identify concerning skin lesions during consultations or interventional therapies. These practitioners often observe areas of the skin that patients may have difficulty examining themselves, such as the scalp or back. This article outlines common benign and malignant skin lesions, highlights when referrals are necessary and summarize preventive measures conservative care providers can offer to improve public health.

Overview of skin/general knowledge

The skin consists of three distinct layers each with its own physiological function. The layers include the subcutaneous layer (hypodermis) - the innermost layer, the dermis - the middle layer, and the epidermis -- the outermost layer.[3,4] The hypodermis, or subcutaneous layer, plays a limited role in lesion formation but is crucial for energy storage and anchoring the dermis to underlying bone and muscle. Above it lies the dermis, which houses vital structures such as blood vessels, sensory neurons, sweat glands, and connective tissue.[5] Superficial to the dermis is the epidermis, the skin's primary barrier to the external environment. The epidermis is a dynamic structure mediating signals between internal and external environments. Histologically, the epidermis comprises five distinct layers, each serving a specific function: the stratum basale, stratum spinosum, stratum granulosum, stratum lucidum, and stratum corneum. For simplicity, the epidermis is often categorized into two main layers: the outer cornified layer of dead skin cells and the inner layer of proliferating epithelial cells.[4,6] This proliferative matrix contains key cellular components, including melanocytes and keratinocytes, which are essential for skin protection. Melanocyte activity, stimulated by sunlight, produces melanin to shield against UV-induced DNA damage, while keratinocytes generate keratin to form a protective barrier and aid in wound healing.[7] Dysregulation of these cells can lead to various lesions, which are classified as either benign (non-cancerous) or malignant (cancerous).

Common benign lesions

Benign skin lesions often occur secondary to trauma (including prolonged UV exposure), aging, or genetic mutations.[8] While lesions of unknown origin can cause patient distress, accurate differentiation between benign and dys-

plastic growths by healthcare professionals is crucial in determining the need for intervention. The following are some common benign skin lesions and their contributing factors.

Cherry angioma

Cherry angiomas are benign lesions of vascular origin. While disease etiology is debated, the prevailing theory is lesion development as a result of age-related angiogenesis, and gene dysregulation (blood vessel formation).[9] Genetic analysis following lesion removal has identified dysregulation of three key genes—*GNAQ, GNA14*, and *GNA11*—suggesting these may be driver mutations.[10] The lesions predominantly develop in older individuals and are evenly distributed across race, sex, and ethnicity. They most commonly manifest on the trunk and upper extremities, though less frequently, they may appear on the hands, feet, or face.[11]

Given the association with aging, the development of new angiomas tends to increase over time. Lesions are characterized as macules, a flat lesion less than one cm in diameter (Figure 1A) or papules, an elevated lesion less than one cm in diameter (Figure 1B). Despite variations in appearance, cherry angiomas are benign and pose no health risks, and healthcare professionals should not be alarmed by their presence.

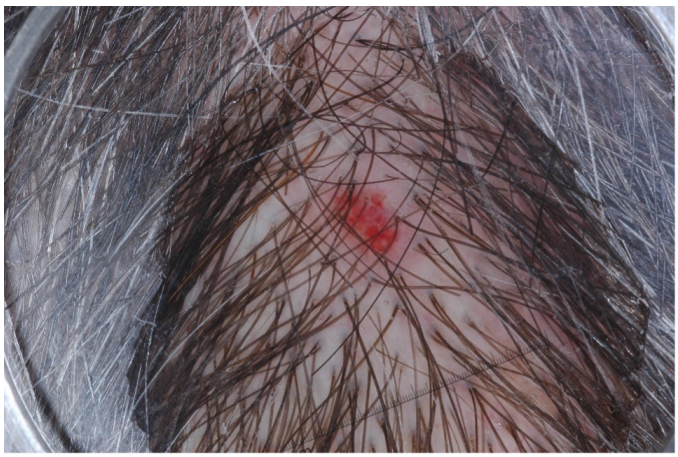

Figure 1A.
Cherry angioma macule on a patient's scalp. International Skin Imaging Collaboration: "ISIC_0013046" is licensed under CC-0; accessed September 23, 2024.

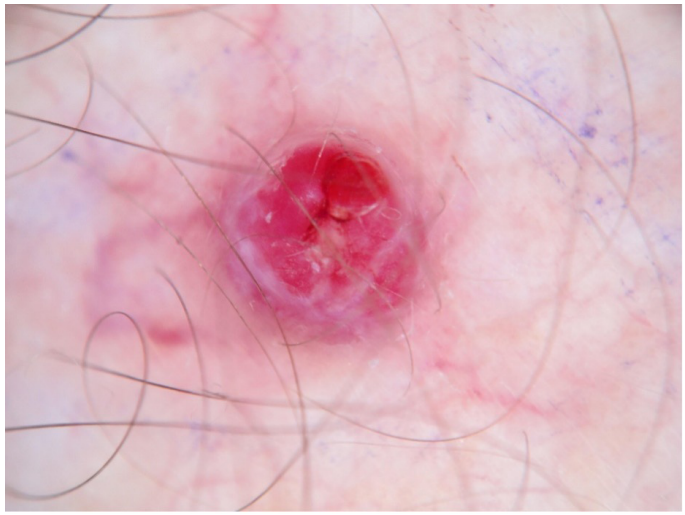

Figure 1B.
Papular cherry angioma with surrounding erythema. International Skin Imaging Collaboration: "ISIC_0022607" is licensed under CC-0; accessed September 23, 2024.

Keratosis

Skin keratoses, like cherry angiomas, also have a higher prevalence with age. Unlike angiomas, the term keratosis is a broad term, referring to a thick localized overgrowth of the skin. Keratoses can be further categorized as seborrheic or actinic, which have different manifestations, causes, and prognoses.

Seborrheic keratosis

Seborrheic keratosis (SK) is extremely common, affecting over 83 million Americans.[12] Disease etiology is contributing factors including genetics, age, and sun exposure.[13] Lesions are more common among individuals with lighter skin tones, and occurs at higher rates in men.[12]

Recognizing SK is sometimes difficult without prior knowledge, due to its highly variable presentation. Formation results from cell cycle dysregulation in keratinocytes, leading to immature epidermal cell proliferation. While SK lesions typically range from 0.5 to 1.5 cm in diameter, they can be significantly much smaller or larger.[13] Lesions are round to oval with well-defined borders and vary in color from light to dark brown. Most SKs present as raised papules or plaques (Figures 2A, 2B), though they may occasionally appear as flat, macular lesions.[12,13]

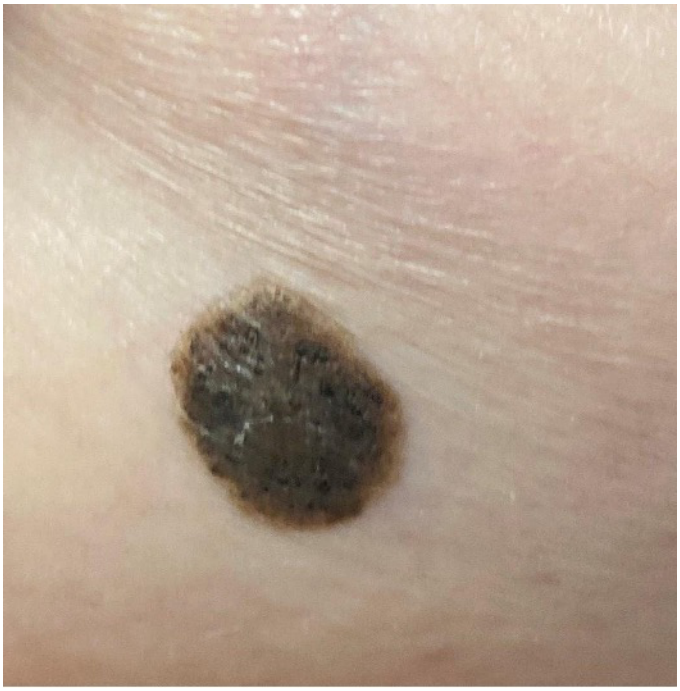

Figure 2A.
Hyperpigmented seborrheic keratosis. International Skin Imaging Collaboration: "ISIC_7546980" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

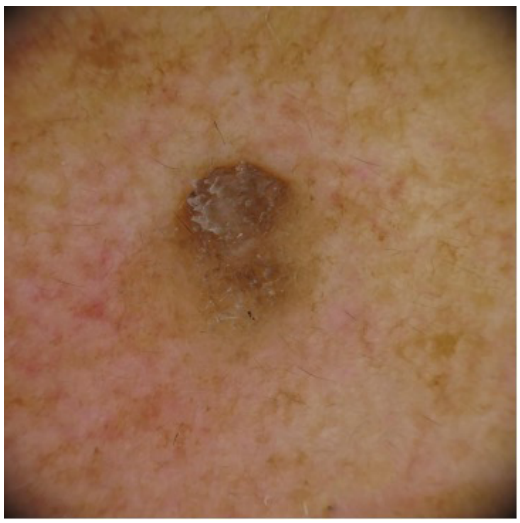

Figure 2B.
Tan solitary seborrheic keratosis. International Skin Imaging Collaboration: "ISIC_0067608" by Hospital Clinic de Barcelona is licensed under CC-BY-NC; accessed September 23, 2024.

Individuals may have anywhere from a single SK or several hundred. These benign lesions pose no health risk, and removal is generally pursued for cosmetic reasons rather than medical necessity. Therapists conducting physical exams may encounter suspected SKs and can perform a tactile assessment using gloves to confirm their presence. SKs are often characterized by a thick, gritty, or waxy texture, which complements their distinct visual appearance.[14] While no treatment is typically required for SKs, lesions that present with pain, color changes, or bleeding warrant referral to a dermatologist for further evaluation.

Actinic keratosis

Actinic keratoses (AK) are premalignant skin lesions that warrant timely dermatologic referral. They arise due to chronic UV exposure, which causes pyrimidine dimer formation and subsequent DNA damage within keratinocytes.[15,16] This leads to cumulative cell defects and dysregulated division. Left untreated, some AKs progress to malignant tumors, most often squamous cell carcinoma. Risk factors for AK development include advanced age, fair skin, and occupations with significant sun exposure. Individuals with lighter skin tones are particularly vulnerable, as lower melanin levels reduce the body's natural protection against UV radiation.[15,17] Clinically, AKs present as poorly defined lesions with a rough, sandpaper-like texture and scaling.[16] Unlike seborrheic keratoses, which have well-defined borders, AKs present with erythema, irritation, and irregular borders, commonly appearing on sun-exposed areas such as the scalp, face, neck, and forearms (Figure 3A). Lesions are often tender to palpation and typically non-pigmented, though pigmented variants can occur (Figure 3B).[16,18]

Due to their subtle presentation, AKs often go unnoticed by patients, who may attribute them to other causes. In therapy settings, the macroscopic presentation of AKs may be subtle, making visual diagnosis challenging. Palpation of the lesions, using appropriate personal protective equipment, can enhance suspicion, as their irregular borders and characteristic rough texture can aid in recognition.[16,19] Providers should maintain a high index of suspicion and refer patients with AKs, particularly if lesions present with pruritus, bleeding, pain, or persistent irritation, as timely intervention and early management can reduce the risk of malignant progression.[16]

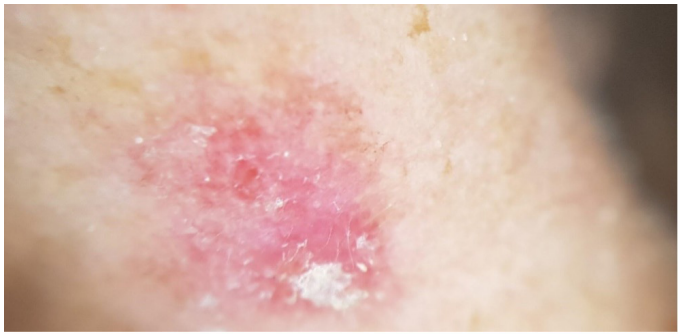

Figure 3A.
Actinic keratosis with central crusting and underlying erythema. International Skin Imaging Collaboration: "ISIC_9314666" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

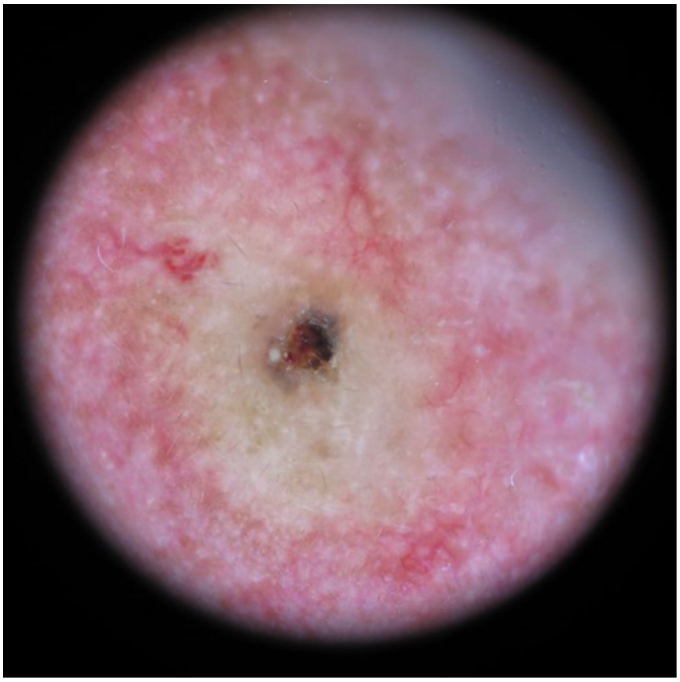

Figure 3B.
Actinic keratosis with central pigmentation. International Skin Imaging Collaboration: "ISIC_0067799" by Hospital Clinic de Barcelona is licensed under CC-BY-NC; accessed September 23, 2024.

Dermatofibroma

Dermatofibroma is a relatively common cutaneous lesion that is categorized as a benign neoplasm. The leading theory behind dermatofibroma development is that it represents a reaction to localized trauma, with lesions most commonly appearing on the extremities. Other theories suggest genetic influences with the lesions resulting from a loss of function mutation.[20] At-risk groups include young adults with studies showing over 80% of lesions occur in individuals between the ages of 20-49.[21] Lesion formation occurs independently of ethnicity or skin color, but appears to have a higher prevalence in females than males.[21]

Dermatofibromas differ from AKs and SKs as the cells proliferate in the dermis and/or subcutaneous tissue. Proliferation of cells deep to the epidermis causes dermatofibromas to have high levels of collagen following fibroblast activation.[22] This collagen can feel firm and reminiscent of scar tissue, often protruding out of the skin. In some cases, dermatofibromas can form nodules exceeding 1 cm in diameter.[23] Dermatofibromas are often limited in number, so suspected lesions will often be solitary, presenting as a hard, raised, skin lesion with a brown, pink, or tan color (Figures 4A, 4B).

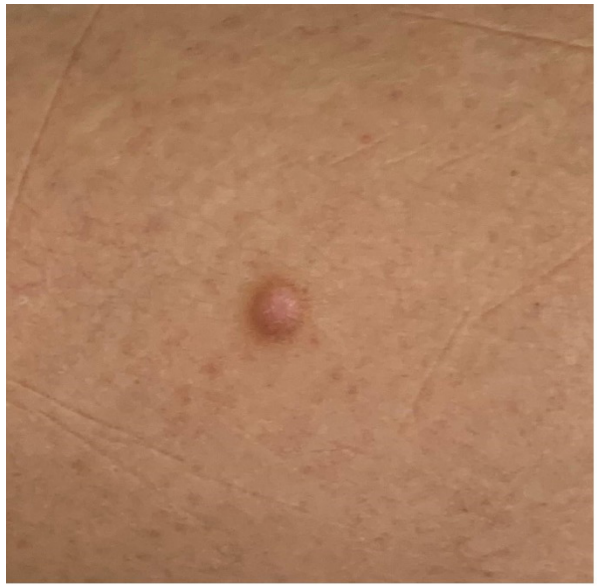

Figure 4A.
Well-circumscribed dermatofibroma of the lower extremity. International Skin Imaging Collaboration: "ISIC_4825485" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

Although most lesions are benign, rare cases of malignant transformation in dermatofibromas have been reported,[24] meaning referral to a dermatologist may be judicious. In

the chiropractic or physical therapy setting, if a lesion is noticed during examination and treatment, a dimple sign test can confirm its presence with up to 90% accuracy.[25] To perform simply squeeze the lesion on both sides and if depression occurs, this is indicative of a dermatofibroma (Figures 4C, 4D).

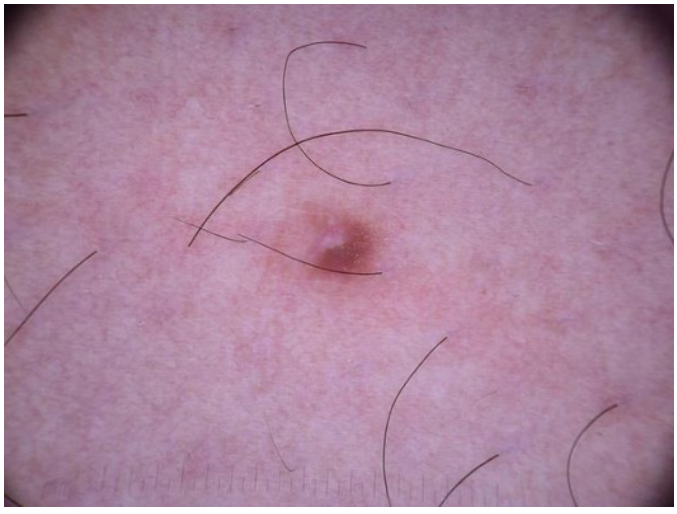

Figure 4B.
Dermatofibroma on the torso. International Skin Imaging Collaboration: "ISIC_0028735" by ViDIR Group, Department of Dermatology, Medical University of Vienna is licensed under CC-BY-NC; accessed September 23, 2024.

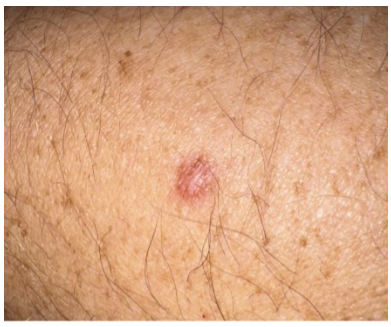

Figure 4C
Dermatofibroma before "squeeze test." Anonymous. Dermatofibroma before "squeeze test." January 9, 2025. Author's personal collection.

Melanocytic nevi

Melanocytic nevi are common, and often referred to as moles. Nevi are benign lesions, however, may evolve into melanoma. Nevi may be acquired or congenital. Congenital nevi are usually benign and they may be present in the subcutaneous tissue.[26] Acquired nevi can be described histologically by the depth of the cells with junctional nevi developing at the dermal-epidermal junction, and intradermal nevi confined to the dermis.[27] While nevi often occur without the development of melanoma, at-risk behaviors including blistering sunburn can increase presence of melanocytic nevi, and future risk of dysplasia.

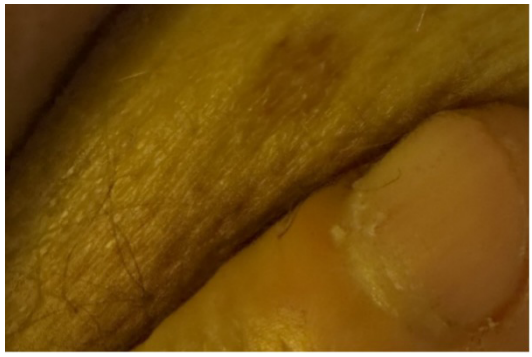

Figure 4D.
Dermatofibroma during "squeeze test" showing dimpling. Anonymous. Dermatofibroma during "squeeze test." January 9, 2025. Author's personal collection.

Melanocytic nevi, or pigmented nevi, can range in color from light brown to dark brown, black, or even flesh-toned. They are found across all skin tones; however, their abundance and risk of malignancy are higher in individuals with lighter skin tones (Figures 5A, 5B).[28] Nevi found on clinical exam with asymmetry, irregular borders, large size (greater than 6 mm in diameter), multiple colors, increasing size over time, pain, pruritus, or bleeding warrant urgent dermatology referral. The so-called ABCDE criteria are helpful to screen for melanoma: Asymmetry, irregular borders, a change in color, a diameter greater than 6 mm, or the patient indicates the lesion is evolving.

Malignant skin lesions

Malignant lesions are often characterized by their ability to locally invade adjacent cells and metastasize to other parts of the body. This may be characterized by rapid growth and skin ulceration. Timely intervention is important with malignant skin lesions as survival rates drastically decline after metastasis.

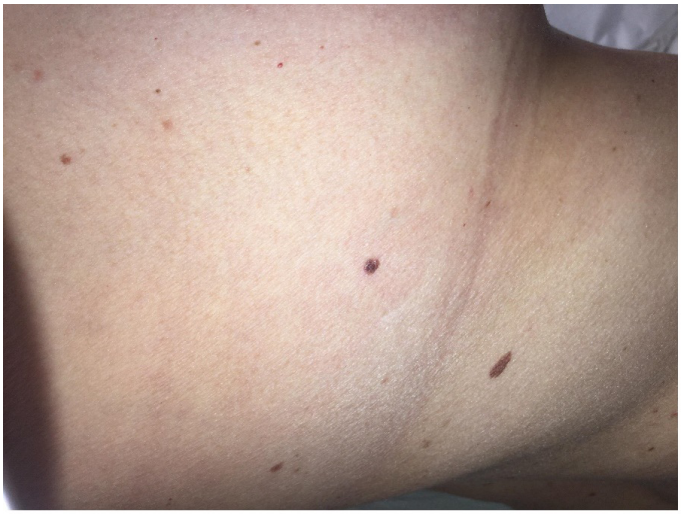

Figure 5A.
Multiple light and dark brown pigmented nevi on the torso. International Skin Imaging Collaboration: "ISIC_5257439" by Memorial Sloan Kettering Cancer Center is licensed under CC-BY; accessed January 28, 2025.

Figure 5B.
Melanocytic nevi b: flesh colored nevi on upper extremity. International Skin Imaging Collaboration: "ISIC_0022016" is licensed under CC-0; accessed January 30, 2025.

Melanoma

Melanoma is directly correlated to sun exposure.[29] While other metastatic lesions are linked to cumulative sun damage, melanoma is correlated to sunburn severity as one blistering sunburn can double a person's likelihood of developing melanoma later in life.[30] Pathogenesis involves UV-induced DNA damage and acquired mutations of the CDK, NRAS, and BRAF genes. Accumulation of mutations overwhelms the cell causing inability to remove UV-induced pyrimidine dimers.[30,31] Clinically, melanomas may be classified as superficial spreading melanoma, nodular melanoma, lentigo malanga melanoma, and acral lentiginous melanoma.[29-31]

Superficial spreading melanoma

Superficial spreading melanomas (SSM) account for the majority of all melanoma diagnoses. Lesions often occur in sun-exposed areas including the face, neck, back, and extremities.[32] SSM lesions often display varied pigmentation, asymmetric borders, and loss of demarcation from surrounding tissues appearing as a "blotchy" red, white, or blue lesion (Figures 6A, 6B).[33] Lesions can be flat patches or raised plaques. They characteristically undergo an initial radial growth phase, and then with time invade surrounding tissue and produce a series of hyper or hypopigmented distally spreading lines (vertical growth phase) (Figure 6C). SSM diagnosis is often delayed when melanomas present in difficult-to-visualize areas (commonly on the legs of females and backs of males).[34] Prognosis can be improved with early detection and referral for biopsy.

Nodular melanoma

Nodular melanoma (NM) like superficial spreading melanoma, presents most commonly in lighter skin tones with no predilection for race or ethnicity. Unlike SSM, nodular melanoma exhibits a weaker correlation to sun exposure and a higher metastasis rate. This subtype is defined by an early vertical growth phase, with metastasis risk escalating as the lesion penetrates deeper into the dermis.[35] NM is less likely to develop from pre-existing nevi, with patients frequently reporting the appearance of a new lesion.[36] NM may exhibit growth patterns that deviate from the traditional ABCDE warning signs, potentially delaying diagnosis and treatment.[37] Compared to SSM, NM typically has a worse prognosis due to its more rapid proliferation.[37] Nodular melanoma should be considered in rapidly growing pigmented lesions (Figures 7A, 7B). Any bleeding, erythema, pruritus, or pain may also indicate the need for immediate skin biopsy.

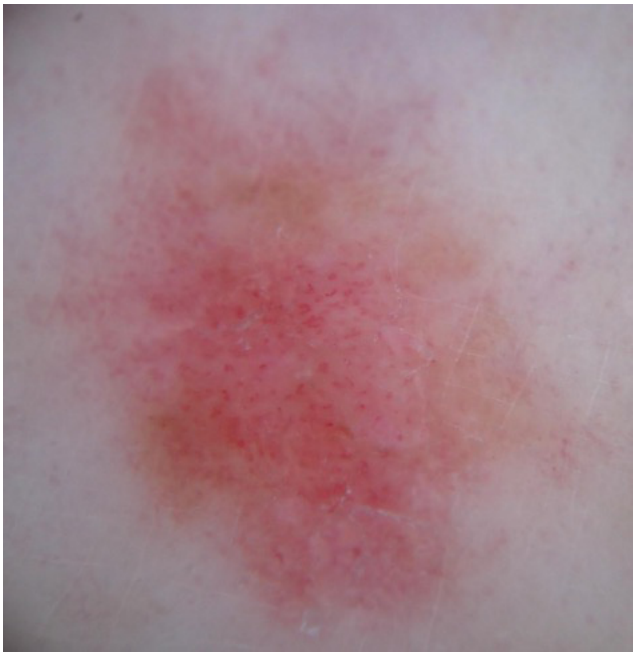

Figure 6A.
Superficial spreading melanoma with red pigmentation. International Skin Imaging Collaboration: "ISIC_0022180" is licensed under CC-0; accessed September 23, 2024.

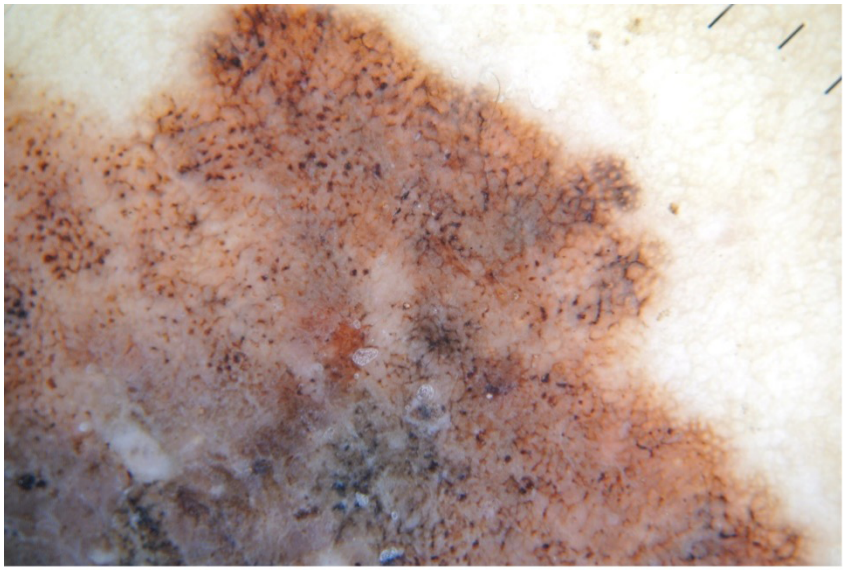

Figure 6B.
An alternating white and blue hue on a superficial spreading melanoma. International Skin Imaging Collaboration: "ISIC_0023270" is licensed under CC-0; accessed September 23, 2024.

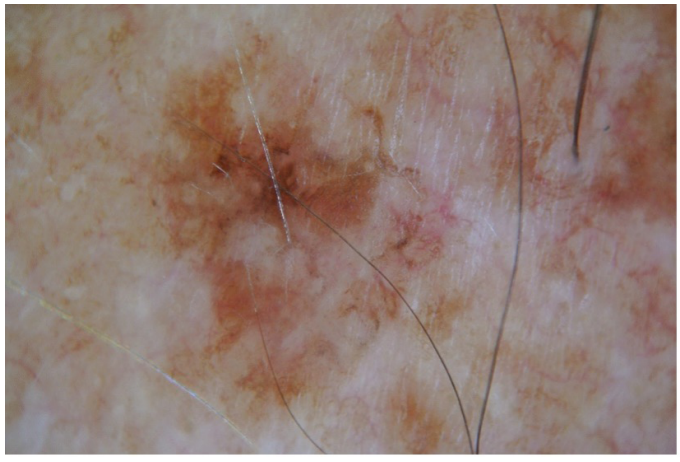

Figure 6C.
Superficial spreading melanoma demonstrating hypo and hyperpigmentation. International Skin Imaging Collaboration: "ISIC_0023376" is licensed under CC-0; accessed September 23, 2024.

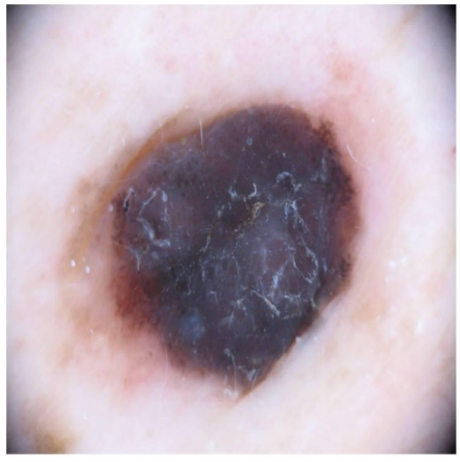

Figure 7A.
Violaceous nodular melanoma. International Skin Imaging Collaboration: "ISIC_0046450" is licensed under CC-BY; accessed September 23, 2024.

Lentigo maligna melanoma

Development of Lentigo Maligna Melanoma (LMM) is characterized by dysplastic infiltration of the epidermal basement membrane arising from preexisting lentigines—commonly referred to as age spots. Lenti-

gines are benign, hyperpigmented lesions that develop due to chronic sun exposure over time (Figure 8A). Formation of LMM is linked to melanocytic dysregulation and is more strongly associated with cumulative sun exposure rather than the intensity of individual exposures.[38,39] Clinical diagnosis can be challenging as LMM frequently appears on the face and its slow, stagnant growth can mimic the appearance of a freckle. Diagnosis should be considered in fair-skinned individuals, with the appearance of a "Hutchinson's freckle;" a light brown superimposed freckle that ranges from a macule (a flat lesion less than 1 cm in diameter) to patch appearance (a flat lesion greater than 1 cm in diameter) (Figure 8B).[40] If a patient presents with these findings, questions about lesion origin, presence, and any signs of evolution may help to differentiate between a benign nevus and a malignant neoplasm.

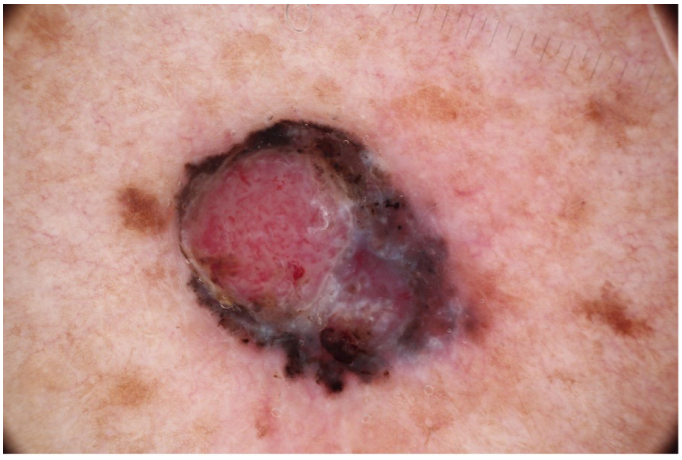

Figure 7B.
Nodular melanoma. International Skin Imaging Collaboration: "ISIC_0046671" is licensed under CC-BY; accessed September 23, 2024.

Acral lentiginous melanoma

Cutaneous manifestations of acral lentiginous melanoma (ALM) are isolated to soles, hands, digits, nailbeds, and other hairless regions of skin.[41-42] ALM shows a marked propensity for darker skin tones, with approximately 78% of cases occurring in individuals of African descent.[42-43] However, it can also present in lighter skin tones. The prognosis for ALM is often poorer, likely due to its tendency to develop in atypical or hard-to-visualize locations. Lesions are associated with trauma and may appear as dark smooth papules presenting against a gray or black macular background of uneven pigmentation (Figures 9A, 9B). ALM should be suspected in pigmented lesions on the palms and soles that meet ABCDE criteria.

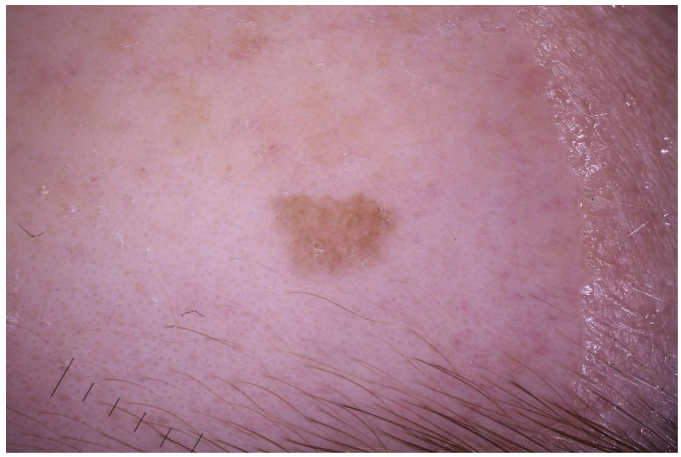

Figure 8A.
Solar lentigo/age spot benign lesion on face. International Skin Imaging Collaboration: "ISIC_9152603" by Memorial Sloan Kettering Cancer Center is licensed under CC-BY; accessed January 28, 2025.

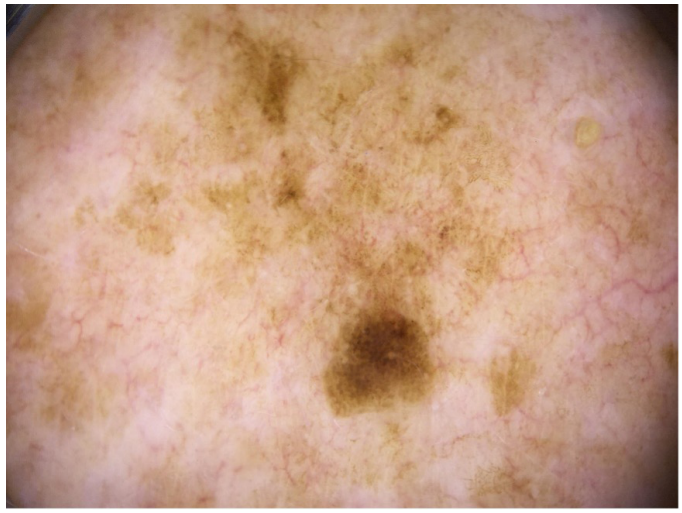

Figure 8B.
Lentigo malinga melanoma. International Skin Imaging Collaboration: "ISIC_5367118" by Memorial Sloan Kettering Cancer Center is licensed under CC-BY; accessed September 23, 2024.

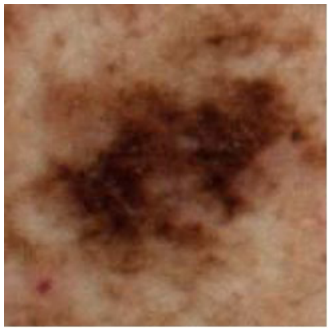

Figure 9A.
Acral lentigo melanoma. International Skin Imaging Collaboration: "ISIC_3951022" by Dermatology Department of Hospital Clinic de Barcelona is licensed under CC-BY-NC; accessed September 23, 2024.

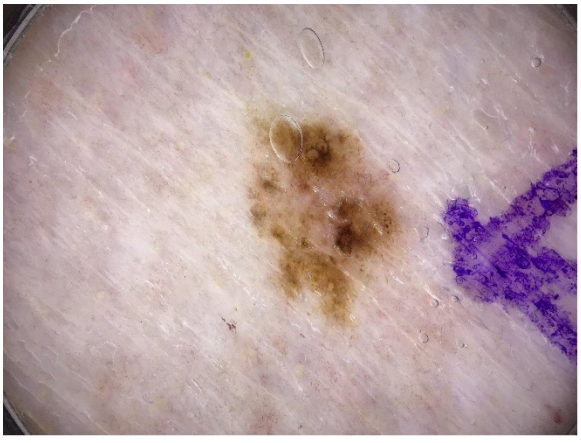

Figure 9B.
Acral lentigo melanoma under dermatoscope. International Skin Imaging Collaboration: "ISIC_8436194" by Memorial Sloan Kettering Cancer Center is licensed under CC-BY; accessed September 23, 2024.

Squamous cell carcinoma

Squamous cell carcinoma (SCC) may occur from pre-cancerous cells known as actinic keratosis and may also arise de novo. Pathogenesis is related to the accumulation of UV-induced DNA damage. SCC shares a similar disease burden with actinic keratoses, occurring more frequently in males, with risk increasing with age and in individuals with Fitzpatrick skin types I–III, characterized by lighter skin that burns easily and tans poorly.[44] Progression from an AK to an SCC is gradual, with an annual risk increase of approximately 0.5% following initial onset.[45]

Lesions appear on areas of high sun exposure including the face, back, neck, and extremities. They are often rough, thick keratotic plaques that may be skin-colored or exhibit localized erythema.[44] Over time, these lesions can evolve from small papules to larger plaques. SCC in situ typically presents as well-demarcated lesions with subtle erythema (Figure 10A).[46] Invasive SCC tends to have increasing erythema, discoloration, ulceration, and skin induration (Figures 10B, 10C). Invasive SCC has the potential for metastasis and referral for excision for SCC is prudent.

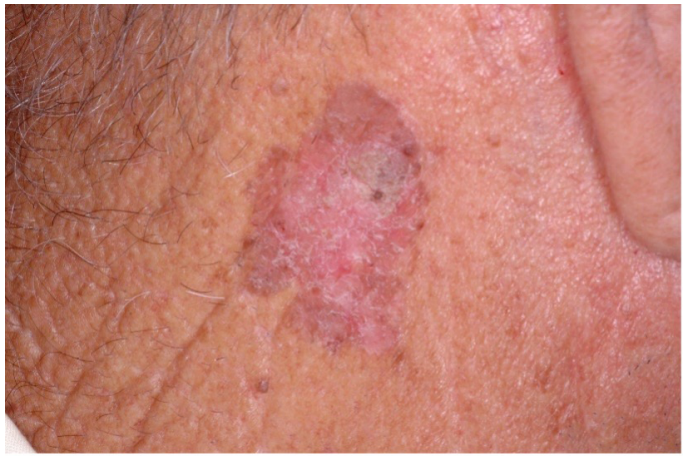

Figure 10A.
Squamous cell carcinoma in situ. International Skin Imaging Collaboration: "ISIC_0024231" is licensed under CC-0; accessed September 23, 2024.

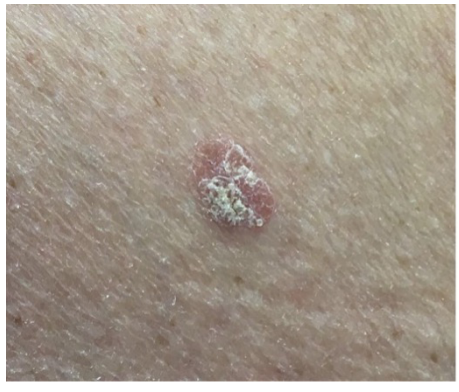

Figure 10B.
Crusting of a squamous cell carcinoma. International Skin Imaging Collaboration: "ISIC_3804099" by Hospital Italiano de Buenos Aires is licensed under CC-By; accessed September 23, 2024.

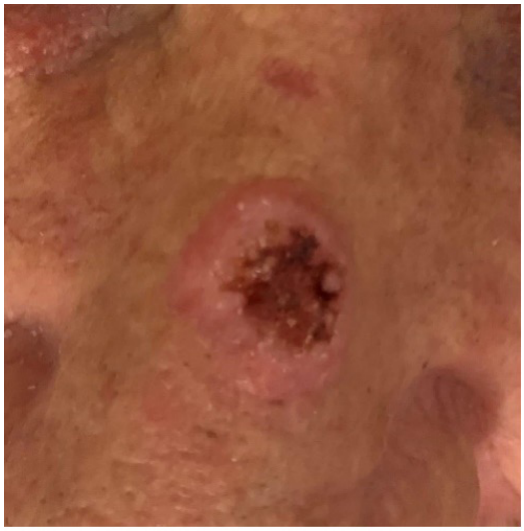

Figure 10C.
Squamous cell carcinoma with ulceration. Internation Skin Imaging Collaboration: "ISIC_0580759" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

Basal cell carcinoma

Basal cell carcinoma (BCC) differs from SCC as the formation of BCC is very rarely linked to AK formation. Cutaneous presentation most commonly is independent of other skin manifestations. The diseases are similar in carcinogenic triggers, with BCC arising primarily from cumulative UV exposure, leading to damage in epidermal keratinocytes. Exact pathogenesis of BCC is the result of DNA-induced loss of function mutation to the PTCH1 gene.[47,48] Constitutive activation of the hedgehog pathway, the pathway which PTCH regulates, occurs shortly after initial mutation-inducing cell dysplasia.

Risk factors for developing basal cell carcinomas include age, sex, and history of UV exposure. BCC favors males over the age of 50. Patients with lighter skin tones are more predisposed to BCC due to lower melanin levels, increasing susceptibility to UV-induced damage.[49] Careful examination of sun-exposed areas is necessary with lesions most commonly occurring on the hands, legs, back, and face.[48,50] Most commonly, BCC appears as flesh-toned to pink, with a shiny or pearly hue, and may present as plaques, nodules, or papules (Figures 11A, 11B, 11C). Additional features include telangiectasias and localized skin induration (Figure 11D).

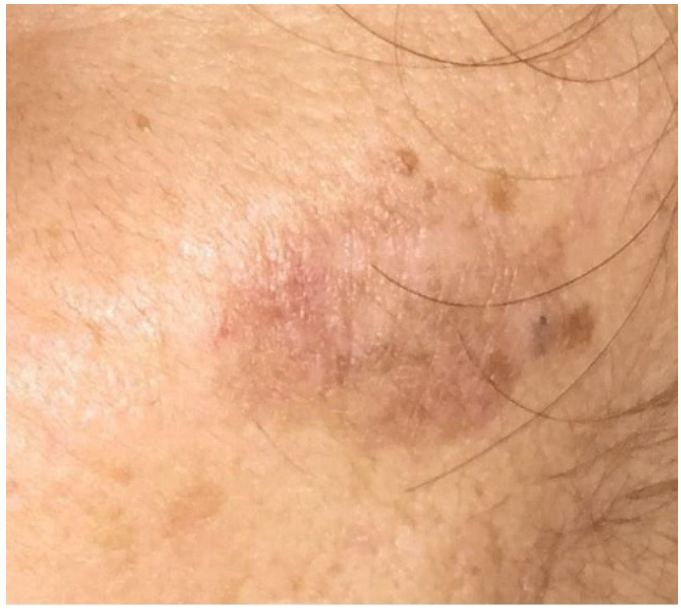

Figure 11A.
Superficial basal cell carcinoma. International Skin Imaging Collaboration: "ISIC_5401158" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

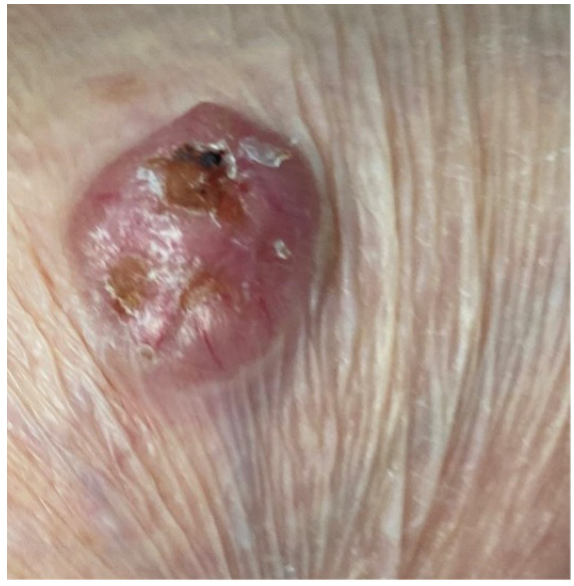

Figure 11B.
Nodular basal cell carcinoma. International Skin Imaging Collaboration: "ISIC_8044078" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

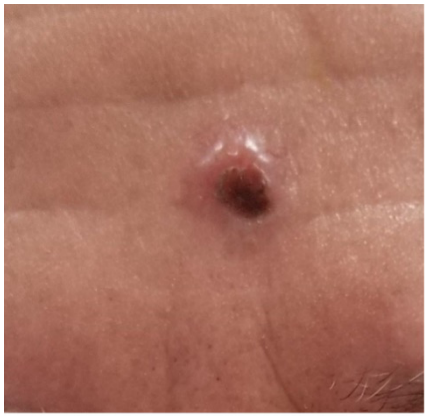

Figure 11C.
Basal cell carcinoma appearing as a papule. International Skin Imaging Collaboration: "ISIC_9107240" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

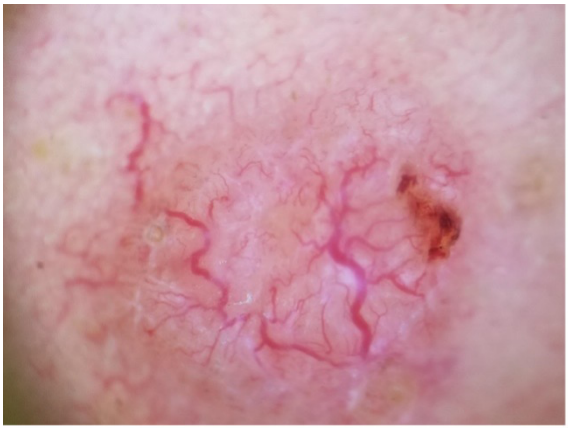

Figure 11D.
Basal cell carcinoma showing telangiectasia on dermatoscope. International Skin Imaging Collaboration: "ISIC_2113665" by Hospital Italiano de Buenos Aires is licensed under CC-BY; accessed September 23, 2024.

BCC is a disease of clinical importance with most recent studies indicating over 200 cases develop per 100,000 individuals.[50] The risk of metastasis is rare, with the high estimates indicating only a 0.55% chance of occurrence.[50] Suspected BCC should be biopsied and excised if positive. Removal of BCC is often curative but should not be delayed, as likelihood of metastasis, local invasion, and adverse outcomes increase with time.[50]

Recommended preventative measures

In addition to recognizing and identifying skin lesions and making prompt appropriate referrals, manual therapy providers have an opportunity to promote the health of the population. They can do this through counseling on good preventive practices in hopes of decreasing risk factors for acquiring preventable dermatological disease. In the United States, 95% of melanoma cases can be attributed to preventable risk factors, most notably ultraviolet radiation exposure.[55] Healthcare providers can help modify these risks through patient education of topical and physical protection against UV radiation. Effective topical protection includes use of sunscreen with SPF of 30 or higher with reapplication every two hours. Physical protection includes use of sun-protective clothing, hats with a full, wide brim, long sleeves and pants, full coverage sunglasses, and finding shade whenever possible while outside, especially between the hours of 11:00 am and 3:00 pm.[56]

Summary

Skin lesions are undoubtedly complex with presentation, and progression is often case-dependent. Disease onset and outcomes are further worsened by initial delay of diagnosis. Manual therapy providers such as physical therapists, chiropractors, and massage therapists are frequently in physical and visual contact with patients' skin. These regions could include areas not frequently visualized by patients such as posterior of neck, ears, soles of feet, or back. Instilling universal knowledge of the characteristics for normal and abnormal lesions such as color, borders, and texture can enable a multi-disciplinary approach to skin cancer screening and prevention methods. Future implementation of this interdisciplinary approach to include chiropractors and physical therapists should lead to timely referrals for diagnosis, more effective treatment outcomes, and increased prevention measures.

Abbreviations

AK – Actinic Keratosis
ALM – Acral Lentiginous Melanoma
BCC – Basal Cell Carcinoma
cm – Centimeter
LMM – Lentigo Maligna Melanoma
mm – Millimeter
NM – Nodular Melanoma

PPE – Personal Protective Equipment
SCC – Squamous Cell Carcinoma
SK – Seborrheic Keratosis
SPF – Sun Protective Factor
SSM – Superficial Spreading Melanoma
UV – Ultraviolet

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