



Practitioners are commonly asked about issues of skin and skin disorders. While many skin lesions are benign, it is becoming increasingly important for clinicians to be able to distinguish benign lesions from premalignant or malignant lesions. The goal of this article is to describe the most common forms of benign lesions in older patients and suggest various treatment strategies.

Key words: melanoma, pigmentary, macules, keratosis, ephelides.

Benign Pigmented Lesions in Older Adults: A Field Guide

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Introduction

Practitioners who deal with older adults must often assess the appearance of a new pigmented skin lesion. While clinicians are constantly alert to signs of malignancy, distinguishing malignant melanoma from its much more common benign cousins can be challenging. The following is a clinical guide meant to assist the clinician in identifying the key features of benign pigmentary lesions.

Pigmentary changes seen in the older adult can be a result of either time's passage or progressive environmental exposure to ultraviolet radiation. The former process can be called chronological aging, whereas the latter is more commonly referred to as photoaging. The final presentation in the older adult is a combination of both processes; understanding the key features of both can assist the clinician in managing pigmented lesions.

In adults over the age of 30, the number of active melanocytes decreases by 10 to 20% each decade.¹ The number of normal melanocytic nevi appears to decrease after age 50. As such, normal nevi are rarely present in individuals older than 80.² Graying of hair is also common and is attributed to a decrease in both the number of active melanocytes in the hair follicle and in the activity of the remaining melanocytes. This appears to be genetically predetermined and is irreversible.³

As most of the benign pigmentary conditions occur on sun-exposed skin, it would be useful to outline what is known about the effect of sunlight on melanocyte function. Approximately twice as many melanocytes are found in

sun-exposed areas as in protected ones.⁴ However, the sun-exposed melanocytes suffer from cumulative damage as a result of DNA cross-linking and oxidative damage. Furthermore, since melanocytes respond to keratinocyte cytokines, sunlight-induced changes to keratinocytes can also lead to pigmentary changes. Finally, the considerable variation seen among older individuals in response to sunlight indicates inherent genetic differences in the vulnerability to photodamage.

There are only a handful of clinical pigmentary lesions common to the older adult. These include: ephelides (freckles), lentigines, pigmented actinic keratoses and seborrheic keratoses, stellate pseudoscars, and idiopathic guttate hypomelanosis. The malignant pigmented conditions such as pigmented basal and squamous cell carcinoma, in addition to malignant melanoma, will be briefly mentioned, if only to provide a differential diagnosis.

Ephelides (Freckles) (Figure 1)

Freckles, or ephelides, are small, polymorphic, flat macules that are frequently located on sun-exposed skin. Freckles appear to be genetically determined and are more common in Celtic or light-skinned Caucasians. Paradoxically, there are fewer melanocytes found within freckles when compared to the surrounding normal skin. However, the type of melanin produced within freckles is the darker brown eumelanin.³ In contrast, the surrounding normal skin produces a paler pheomelanin. This contrast gives the darker appearance within the freckle. Freckles will darken if

exposed to sunlight. Ephelides usually do not require any treatment, but care must be taken to distinguish freckles from true melanocytic nevi.

Actinic or Solar Lentigines (Figure 2)

Adults with a freckling tendency are more prone to develop this common benign skin condition. Lentigines occur in more than 90% of all adults over the age of 50.⁵ Clinically, the macules are dark in colour but can have various shades from yellow to black. Their size may range from a few millimetres to more than one centimetre and they can coalesce to form an irregular border. They manifest neither textural change nor surface scaling. Since the surface may be multicoloured and irregular in shape, it may be difficult to distinguish solar lentigines from lentigo maligna or melanoma and therefore the clinician will require a biopsy to confirm.

Pigmented Actinic Keratoses (Figure 3)

While actinic keratoses are usually nonpigmented, there are some variants that contain pigment. One common variant is the spreading pigmented actinic keratosis. These are found on the face and are usually more than one centimetre in size. Continued spreading leads to large areas of damage with unusual pigmentation. Although these lesions may resemble lentigo maligna, the pigmented actinic keratoses have epidermal scaling that is typically seen with other actinic keratoses. As with any irregular shaped pigmented lesion on the face, a biopsy is warranted to rule out melanoma.

Seborrheic Keratoses

Seborrheic keratoses are one of the most common conditions referred for assessment as a melanoma. These papules have very distinct, well-defined margins and frequently have undermining edges similar to what a piece of dry wax would have were it dripped onto the skin. Dilated pores and keratotic pearls on the surface are often clearly visible on the surface. They may range in colour from light tan to jet black and appear to darken as they thicken. They frequently dislodge or spontaneously peel off, only to recur with time.

Erythromelanosis Interfollicularis of the Neck

This common pigmentation of the neck and face is characterized by the clinical triad of erythema, follicular papules and hyperpigmentation.⁵ The lesions involve the lateral sides of the neck and spare the underside of the chin. The pale follicular papules give a plucked-chicken skin appearance, whereas the telangiectatic vessels and melanin give the ruddy red-brown colour. The condition is persistent and very challenging to treat. Some reports support the use of pulsed dye laser therapies to blanch out the colour.

Stellate Pseudoscars

These small pigmented spots are commonly seen on the dorsum of the hands and forearms. Extensive sun exposure



Figure 1: Ephelides



Figure 2: Actinic Lentigo



Figure 3: Actinic Keratosis



Figure 4: Guttate idiopathic hypomelanosis

appears to be a prerequisite for their formation. They are most frequently found in persons over the age of 70. Skin atrophy and hemosiderin deposition are commonly seen in association with these pseudoscars.

Idiopathic Guttate Hypomelanosis (Figure 4)

This is one of the most common but frequently overlooked pigmentary changes seen in the elderly population. Idiopathic Guttate Hypomelanosis (IGH) is characterized by multiple small, discrete, pure white macules on the sun-exposed

areas of the forearms and legs.⁶ These areas of hypopigmentation will never reform pigment. While the cause is not certain, the correlation with long-term sun exposure suggests that the melanocytes are damaged or deleted.

Treatment

Any pigmented lesion that has an atypical architecture or exhibits rapid morphological change requires a biopsy to confirm the histological diagnosis. The most important diagnosis to rule out is malignant melanoma. If there is any doubt about the diagnosis of the lesion in question, this simple procedure can be lifesaving.

Conclusions

There are now multiple therapeutic options available for treating benign pigmented lesions. Macular lesions, such as ephelides and solar lentigines, may respond to exfoliating methods including retinoic acids or glycolic acid peels. More aggressive resurfacing methods, like deeper chemical peels or dermabrasion have more risk for post-inflammatory scarring and are therefore not common-

ly used. Lasers that have a particular action spectrum within the melanin absorption spectrum have been useful, especially for solar lentigines and erythromelanosis interfollicularis. Cryotherapy has been a very common and popular method for treating benign pigmented lesions, but care is required to prevent hypopigmented scarring.

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