

An Overview of Melasma and Its Impact on Today's Patient Population

Dermatology Times: *For those readers who are less familiar with the condition, what is melasma?*

Dr. Alexis: Melasma is one of the most common disorders of hyperpigmentation. It primarily affects women, although men can also be affected to a lesser extent. Melasma typically presents with symmetrical, hyperpigmented patches that most commonly involve the cheeks, forehead, and upper lip. Less commonly, sites off the face such as the forearms can be involved.

Despite the relatively common nature of melasma, it is a very challenging disorder to treat in that none of our therapies are curative. Even after visible improvement of a patient's hyperpigmentation, ongoing management is necessary to treat this chronic relapsing disorder.

Dermatology Times: *How does melasma compare to other common chronic skin conditions that dermatologists often see such as acne and rosacea?*

Dr. Alexis: Melasma has some similarities to acne and rosacea in the sense that they are all chronic,

relapsing conditions. What makes melasma unique is that while it can affect any population, it disproportionately affects patients with Fitzpatrick skin types III, IV, V, and VI. It is our patients with more pigmented skin who tend to be affected the most.

Dermatology Times: *Why is that thought to be the case?*

Dr. Alexis: As a disorder of hyperpigmentation, excess production of pigment by melanocytes is central to the etiology of melasma. Patients with darkly pigmented skin inherently have melanocyte responses that are more labile. They have a tendency to produce more pigment in response to a variety of stimuli, including light, inflammation, and hormonal factors.

In addition to that, there may be some genetic factors involved that predispose patients with more darkly pigmented skin to the development of melasma. For example, the majority of patients with melasma report a family history of the condition. In one recent review of global epidemiological studies, up to 64% of patients diagnosed with melasma reported having a relevant family history of



Characteristic features of melasma: tan brown patches on cheeks and upper lip in a woman with skin phototype IV.

the condition.¹

So essentially, there is thought to be an overlap of genetic factors, exposure to ultraviolet and visible light, and hormonal factors that put a patient at risk of developing melasma.

Dermatology Times: *What is it about pregnancy that is thought to trigger melasma?*

Dr. Alexis: While it is not entirely clear, it is thought that pregnancy-related melasma is caused by the presence of increased levels of progesterone and estrogen that leads to increased pigment produc-

tion in melanocytes.² It is estimated that somewhere between 14% and 56% of cases of melasma are associated with pregnancy or oral contraceptive use, according to recent epidemiological studies.^{2,3}

Dermatology Times: *What are the primary steps clinicians need to take to determine the presence or the absence of melasma?*

Dr. Alexis: Melasma is typically a diagnosis made by clinical examination. It is rare that a biopsy will need to be performed, although there are other possibilities in the differential diagnosis that some-

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times need to be ruled out. But when melasma presents with its characteristic features, further testing — including biopsies — are generally not required.

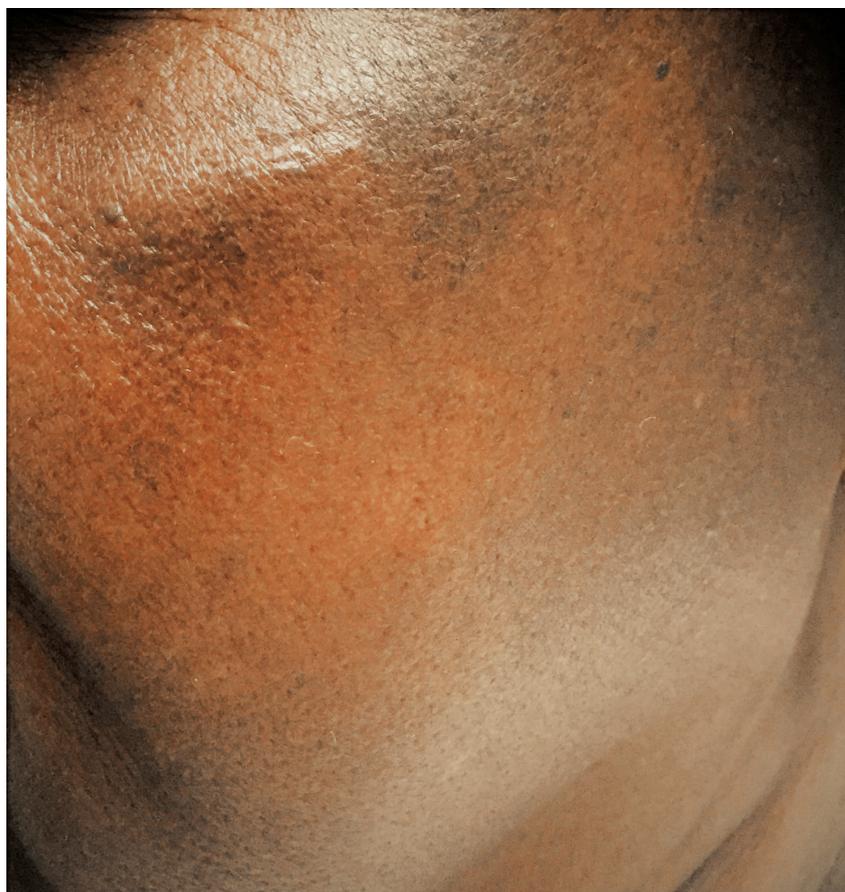
What is required during the clinical exam is the use of Wood's light examination to assess the predominant location of the pigment. Is the pigment predominantly epidermal or dermal in nature? It should be noted that the Wood's light exam is not always reliable, though its results will often have implications as far as the treatment outcomes. Dermal melasma is typically more challenging to treat than melasma that is predominantly epidermal.

Dermatology Times: *Are there any instances where you will require a biopsy in a patient with potential melasma?*

Dr. Alexis: Yes, in scenarios where the presentation isn't 100% characteristic of melasma, biopsy may be required. For example, biopsy is often indicated in a patient who presents with symmetrical hyperpigmentation on the face that has a slightly violaceous or grayish hue that suggests an alternate diagnosis such as lichen planus pigmentosus or medication-induced lichenoid dermatosis. Medication-induced lichenoid dermatosis can be seen with, for instance, as a result of use of calcium channel blockers such as diltiazem.

Exogenous ochronosis is a complication caused by long-term use of hydroquinone that can also present in a similar location as melasma on the face, so that is another possible instance when biopsy is required in a patient who presents with pigmentation that is grayish or blueish in tint.

Dermatology Times: *What would you look for on biopsy that would either point you to melasma or one of these alternate, less common diagnoses?*



Exogenous ochronosis involving the upper cheek: distinguished from melasma by its bluish black hue.

Dr. Alexis: These other entities such as lichenoid or interface dermatoses, as well as exogenous ochronosis, have specific characteristic findings on histopathology that can be identified on biopsy.

Dermatology Times: *So then is biopsy considered to be a test of exclusion to rule out these less common diagnoses as opposed to being confirmatory of melasma?*

Dr. Alexis: Yes, absolutely. In patients with melasma, we will typically see increased pigment in the epidermis as well as in the papillary dermis on biopsy. The melanocytes themselves tend to be larger, have more prominent dendrites, and increased pigment within the melanosomes. In the papillary dermis, there will typically be melanophages as well as features of photo damage such as solar elastosis.

There have been recent studies looking at lesional skin from melasma comparing it to perilesional, uninvolved skin. What these studies have found is that there is increased melanin in lesional skin, as well as hyperfunctional melanocytes and features of increased vascularity and solar elastosis, not all of which are seen in the perilesional skin.^{4,5}

Dermatology Times: *What sort of impact does melasma have on your patients' quality of life? What are some of the more common complaints you hear from your patients who are newly diagnosed with the condition?*

Dr. Alexis: It cannot be understated how much of an impact melasma can have on quality of life. It can be quite disfiguring to patients, affecting their self-esteem, social functioning, and per-

formance in the workplace. In certain cultures, it can be particularly stigmatizing to have the features of melasma, with brown patches on the face being very visible and difficult to mask with makeup and other cosmetics.

Dermatology Times: *Is it typically a relief to patients to be able to put a name to their condition and then potentially be able to treat it?*

Dr. Alexis: Yes, without question. Before a patient actually sees a dermatologist or other healthcare provider who is able to give them a diagnosis of melasma, patients often feel that their condition is due to myriad factors. They might be concerned that it is related to their overall health, including internal diseases. Some patients even worry that it's something potentially malignant or contagious depending on the culture that they come from and their background level of knowledge.

So yes, it's often reassuring to our patients to know that this is a common condition that dermatologists can easily recognize. It affects populations around the world, we have a good idea of what causes it, and we have effective treatments.

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