

Thinker's plaque: a sign of boredom or wisdom?

Volume 6 Issue 2 - 2022

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Received: April 30, 2022 | **Published:** May 17, 2022

Introduction

Acquired hypermelanosis of the skin is a common condition that can develop secondary to various causes, such as topical application of irritants, repeated friction, ultraviolet radiation, and aging. The submental area is generally spared from environmental insults, such as exposure to ultraviolet radiation, due to its anatomical location. However, hypermelanosis of the submental area is a common complaint that brings patients to a dermatologist. In recent times, the number of patients presenting with this problem has increased probably due to the practice of wearing masks during the COVID-19 pandemic. Usually, the typical patient is a young woman who is cosmetically conscious and is distressed with this peculiar lesion under the chin. The lesion is generally asymptomatic except for the distress that it causes the patient. However, in some cases, the patient may complain of itching or thickened or rough skin. Inspection reveals a triangular area of hypermelanosis confined to the approximately lateral half of the submental area. Sometimes the area may present discrete horny follicular prominences. Additionally, the skin may demonstrate lichenification or plaque-like thickening without any particularly distinct patterns (Figure 1). Dermoscopy of the affected area reveals well-defined follicular prominences over a background of mildly hyperpigmented skin. Some areas may demonstrate fine scales as well (Figure 2). However, signs of inflammation are absent in these lesions. The lack of symptoms and the benign dermoscopic findings suggest that a biopsy is not required in such cases.



Figure 1 The submental area in a 20-year-old female shows a hypermelanotic plaque, interspersed with horny papules confined to one half of chin.

An interesting observation is that such hypermelanosis is generally predominant on the non-dominant side—it is right-sided in a left-handed person and left-sided in a right-handed person. It is common for a person to rest their face on the non-dominant open palm while sitting upright and performing a task with the dominant hand. For example, when one is lost deep in thought, they may assume a similar posture unconsciously as it is easy to rest the face in this manner. Similarly, while attending a lecture, right-handed students may rest their chin on their left palms while taking notes since it can be a monotonous, and rather boring, activity. Akin to the posture of the fist and face in the famous sculpture “The Thinker” by Auguste Rodin,

one may be lost deep in thought and not realize the frequent pressure and friction impacting the submental area. We have named this benign and harmless entity the ‘Thinker’s Plaque’. It is commonly seen in daydreamers, such as students. Continuous application of friction and pressure over the submental area results in a form of frictional dermatitis,¹ which can become exacerbated due to additional friction from facemasks over the area while speaking or turning the head. This is especially true in cases of surgical masks and N95 masks that include rigid margins that are applied tightly over the nose and mouth using adjustable straps.²

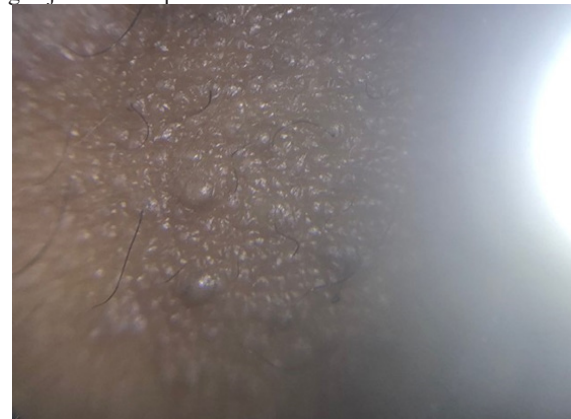


Figure 2 Dermoscopy shows papules over a blanket of hyperpigmentation, slightly increased skin markings and fine scaling in some parts of affected area.

The differential diagnosis for such presentations includes keratosis pilaris, phrynoderma, lichen spinulosus, and frictional dermatitis. Due to the unique location of the presenting lesion and the lack of other features, such as inflammation, alopecia, and associated features of rare genodermatoses, the most likely diagnosis is frictional dermatitis. A limitation in our observations is the lack of histopathological examination of the tissue. These patients presented to a private clinic and refused to undergo an invasive procedure, such as a biopsy, before a trial of topical formulations. Since it is primarily a cosmetic condition of keratosis and hyperpigmentation, topical triple combination therapy with 2% hydroxyquinone, 0.01% fluocinolone acetonide, and 0.025% tretinoin³ along with abstinence from the habit of resting the chin over the palm typically reverses the condition in a few weeks. In rare cases

of advanced lesions of the 'Thinker's Plaque', the lichenified skin may require mild topical steroids to revert it to normal skin.

Conclusion

In conclusion, submental hypermelanosis is an interesting and benign condition that is not uncommon in clinical practice. It has rarely been described in the literature. We have termed it the "Thinker's Plaque" and believe that dermatologists should focus on behavioral modifications and counseling rather than pharmacological interventions in patients with this innocuous presentation.

Acknowledgements

None.

Conflicts of interest

The author declares there is no conflict of interest.

Author contributions

SK coined the term and formulated the revisions of the manuscript. NM drafted the manuscript.

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