Lichenified plaque in chin after chronic irritation

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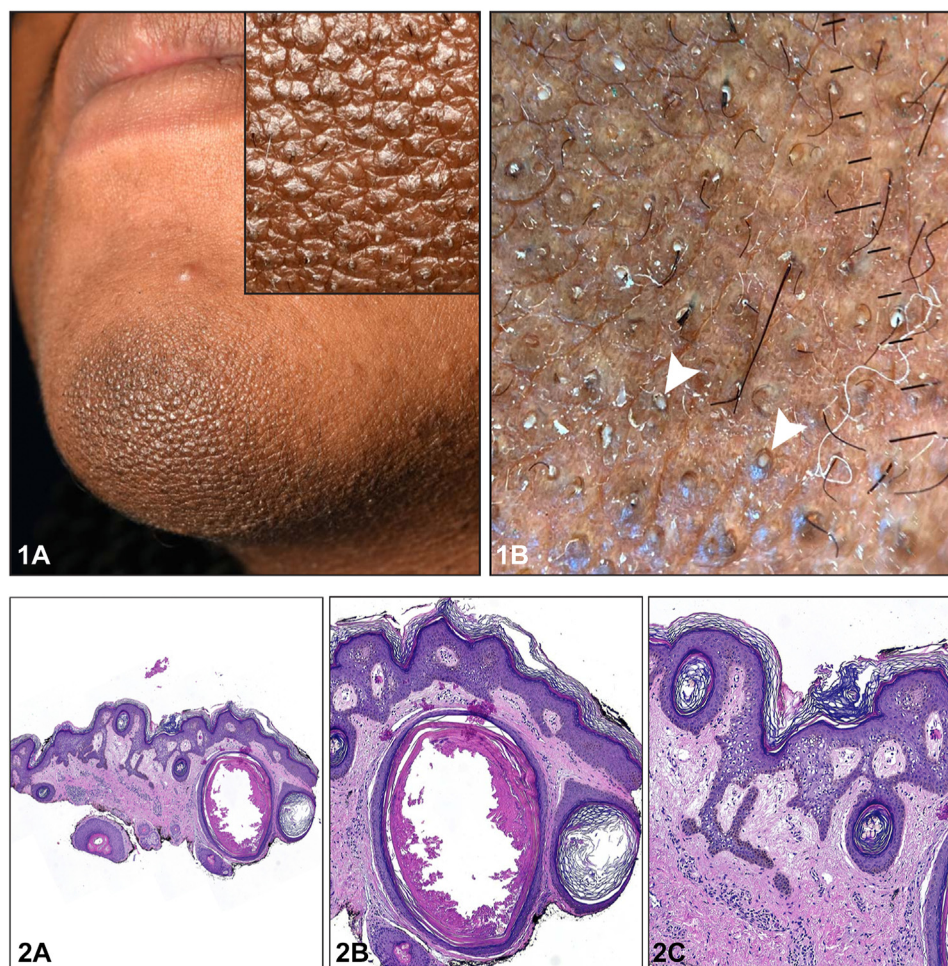

A 14-year-old Black female presented to our clinic with a hyperpigmented lichenified papillomatous plaque of her chin (Fig 1), imparting a goosebump-like presentation that appeared several months prior. Her history included polycystic ovarian syndrome with secondary acanthosis nigricans, supported by the presence of

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velvety plaques in the skin folds. A biopsy of the chin plaque was performed and revealed mild hyperkeratosis, epidermal hyperplasia, focal pagetoid dyskeratosis, and dilated follicles (Fig 2). Upon further questioning, the patient admitted to habitually resting her chin on her bed while studying.

Question 1: What is the most likely diagnosis?

A. Comedonal acne

B. Keratosis pilaris

C. Lichen spinulosus

D. Lichen nitidus

E. Traumatic anserine folliculosis (TAF)

Answers:

A. Comedonal acne — Incorrect. Although acne may be a manifestation of polycystic ovarian syndrome, histologic findings of comedonal acne typically include cystic cavities filled with both keratinous material and bacteria. Furthermore, inflammation and scarring would most likely be appreciated. The distinguishing feature between acne and TAF is the presence of comedones in acne.

B. Keratosis pilaris — Incorrect. Keratosis pilaris typically presents on the lateral surfaces of the proximal arms, anterior thighs, and lateral cheeks. Dermoscopy would reveal coiled or looped hair shafts, and biopsy would demonstrate mild perifollicular lymphocytic inflammation. The chin is typically spared.[1]

C. Lichen spinulosus — Incorrect. Lichen spinulosus most commonly presents as symmetrically distributed plaques on the trunk and extremities. Histologic findings of lichen spinulosus include follicular plugging and heavy perifollicular infiltrate of lymphocytes.

D. Lichen nitidus — Incorrect. Although lichen nitidus typically presents with small, flesh-colored papules, histologic findings would include subepidermal inflammatory infiltrates and an epidermal collarette imparting a "ball and claw" appearance. Additionally, lymphocytes, histiocytes, and occasional giant cells may be seen.

E. TAF — Correct. TAF most commonly presents on delicate areas of the skin, namely the chin and jawline.[2] Histologic findings demonstrating a folliculocentric, hyperkeratotic process with no significant dermal inflammation support a diagnosis of TAF.[2] A history of repetitive placement of the chin on a surface, such as in this patient who was repeatedly resting her chin on her bed while studying, further corroborate the diagnosis. Furthermore, TAF has been noted to preferentially affect children of color.[3]

Question 2: What is the most appropriate pharmacologic treatment in this patient?

A. Tretinoin 0.025% cream

B. Hydrocortisone 2.5% cream

C. Tacrolimus 0.1% ointment

D. Ruxolitinib 1.5% cream

E. Minocycline 4% foam

Answers:

A. Tretinoin 0.025% cream — Correct. Although the only curative treatment for TAF is cessation of chronic friction to the affected area, the use of topical keratinolytics such as tretinoin may be used for symptomatic management.[3,4]

B. Hydrocortisone 2.5% cream — Incorrect. TAF is not a primarily inflammatory process and typically lacks significant pruritis, therefore, anti-inflammatory and/or anti-pruritic therapies such as topical corticosteroids are not indicated.

C. Tacrolimus 0.1% ointment — Incorrect. Tacrolimus ointment is used as a second-line therapy for the treatment of moderate to severe atopic dermatitis. Topical calcineurin inhibitors may also be considered for the treatment of lichen nitidus but are not indicated in the treatment of TAF.

D. Ruxolitinib 1.5% cream — Incorrect. Ruxolitinib, a Janus kinase inhibitor, may be used for short-term treatment of mild to moderate atopic dermatitis. It may also be used for the treatment of nonsegmental vitiligo.

E. Minocycline 4% foam — Incorrect. Topical minocycline, a tetracycline antibiotic, may be used for the treatment inflammatory acne vulgaris. There is no infectious component to TAF, therefore, topical antibiotics such as minocycline are not indicated.

Question 3: What are the dermoscopic features of this entity?

A. Follicular plugging, white scale, and a peripheral pink zone with normal surrounding skin

B. Dilatation of follicular openings, follicular plugs, perifollicular scale, and embedded hair in follicles

C. Aggregated white-yellow globules surrounded by crown vessels

D. Absence of follicular openings, perifollicular scale, white areas, perifollicular erythema, milky-red areas, and white and blue-gray dots

E. Milia-like cysts, comedone-like openings, network-like structures, fissures and ridges, fingerprint-like structures, and hairpin vessels

Answers:

A. Follicular plugging, white scale, and a peripheral pink zone with normal surrounding skin – Incorrect. Although follicular plugging is seen with TAF, white scale and a pale pink zone at the periphery are seen with comedonal acne.[5]

B. Dilatation of follicular openings, follicular plugs, perifollicular scale, and embedded hair in follicles – Correct. Dermoscopy of TAF may reveal dilated follicular canals filled with massive hyperkeratotic plugs/follicular spicules and few hair shafts. Although inflammation is not thought to be involved in the etiology of TAF, it may be present in some cases, appearing as reddish-brownish discoloration of the surrounding skin on dermoscopic examination.[5]

C. Aggregated white-yellow globules surrounded by crown vessels – Incorrect. Aggregated white-yellow globules, also known as the "cumulus sign," surrounded by bending blood vessels with central extension are findings seen in the diagnosis of sebaceous hyperplasia. Additional dermoscopy criteria include arborizing telangiectasias and central umbilication.

D. Absence of follicular openings, perifollicular scale, white areas, perifollicular erythema, milky-red areas, and white and blue-gray dots – Incorrect. The absence of follicular openings, perifollicular scale, and perifollicular erythema are important dermoscopic findings in lichen planopilaris. Lichen planopilaris results in progressive and permanent hair loss, primarily affecting the scalp.

E. Milia-like cysts, comedone-like openings, network-like structures, fissures and ridges, fingerprint-like structures, and hairpin vessels – Incorrect. Features such as milia-like cysts and fissures and ridges forming a brain-like pattern are diagnostic for seborrheic keratosis, which may appear clinically as a well-demarcated, greasy appearing plaque with a "stuck-on" appearance.

Abbreviation used:

TAF: Traumatic anserine folliculosis

Conflicts of interest

None disclosed.

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