Traumatic Anserine Folliculosis and Comedones: The Role of Dermoscopy in Differentiation

Abstract
Traumatic anserine folliculosis (TAF) is an under-recognized and under-reported entity that is commonly mistaken as comedonal acne. It is seen in children and young adults and friction has been implicated as a probable factor in its causation. As face is the commonest site, biopsy may not be a feasible diagnostic option. Dermoscopy proves to be a reliable non-invasive diagnostic tool to differentiate these two disorders. In this article, we describe the dermoscopic features of TAF in three patients and also attempt to highlight the clinical and dermoscopic distinction between TAF and comedonal acne.

Keywords: Acne, anserine folliculosis, comedones, dermoscopy, traumatic

Introduction
The condition Traumatic anserine folliculosis (TAF), is believed to be consequent to repeated friction with the patient’s skin and its morphology is characterized by skin-colored follicular papules that give a rough “sandpaper” feel on palpation. The sites described are the chin, jaw, and neck.

Case Reports

Patient 1
A 17-year-old male presented to our outpatient department with asymptomatic raised lesions over the right cheek for the past 2 years. There was history of sleeping on the right side with face in contact with the arm. There was no history of atopy. Patient was being treated as a case of acne vulgaris with topical agents in conjunction with comedone extraction. Cutaneous examination of the right cheek showed multiple skin-colored follicular papules that were closely grouped. There were few open comedones in the surrounding area and also over the forehead, left cheek, and chin [Figure 1a]. Rest of the cutaneous examination was normal.

Based on the above clinical presentation a differential diagnosis of traumatic anserine folliculosis (TAF), comedonal acne, and keratosis pilaris were considered and patient was advised a skin biopsy which he denied. Dermoscopy was done with a videodermoscope Dinolite digital microscope (Model AM7115MZT) which showed dilated follicular openings, perifollicular white scales, and reddish-brown areas with embedded hair in the follicle [Figure 1b].

Based on the history, clinical features and the presence of dilated follicular openings on dermoscopy, diagnosis of TAF was made and the patient was advised to avoid prolonged friction over that area and change his posture while sleeping. He was also prescribed topical tazarotene gel 0.04% to be used at night. There was dramatic improvement after 4 weeks of therapy after which dermoscopy revealed remnant follicles and reddish area [Figure 1c]. Reddish area represents erythema due to tazarotene.

Patient 2
A 23-year-old male presented with asymptomatic raised lesions on left cheek of one-year duration. There was history of resting on the left side while watching television for hours. There was no history of dry skin or atopy. Cutaneous examination revealed multiple skin colored follicular...
papules that were closely grouped and gave a “sandpaper” feel on palpation [Figure 2a]. Surrounding skin was normal. Rest of the cutaneous and systemic examination were within normal limits.

Dermoscopy done with a Dinolite digital microscope (Model AM7115MZT) showed dilated follicular openings with plugs, superficial white scales, and reddish-brown structureless areas [Figure 2b].

A Diagnosis of traumatic anserine folliculosis was made and patient was advised to avoid that particular posture and prescribed topical tretinoin cream.

**Patient 3**

A 25-year-old male presented with asymptomatic lesions on left cheek for the past 6 months. He also had history of acne. Patient reported resting on left side of face for long hours. Cutaneous examination showed follicular closely grouped papules on left cheek [Figure 3a]. Also seen were few inflammatory lesions of acne.

Polarized dermoscopy done with a videodermoscope (Dinolite digital microscope (Model AM7115MZT) showed similar findings of dilated follicular openings with plugging [Figure 3b]. Patient was diagnosed as anserine folliculosis and advised similar treatment and precautions as in the previous case.

**Discussion**

Traumatic anserine folliculosis is an under recognized entity rarely reported in literature.[1-3] Its name is derived from the role of pressure and friction in its etiology, the anserine or “goose skin” appearance and the follicular nature of the lesions. It is commonly misdiagnosed as comedonal acne owing to the clinical resemblance as was seen in our patients. The condition was first described by Padilha-Goncalves several years ago in a case series of 11 patients which were mostly children and teenagers who developed this clinical entity with the common etiologic factor of localized prolonged pressure and friction with the skin of the patient.[1] This could be due to prolonged resting on one body part while resting or watching television or repeated massage. Although atopic background was found in a high percentage of patients the link between anserine folliculosis and atop dermatitis cannot be established.

Histopathology of lesions, as originally described by Goncalves, showed dilation of follicular openings and retention of keratotic material in majority of the cases.[2] Other less consistent findings are focal presence and an increase of the stratum lucidum, hyperkeratosis and hypergranulosis and mild perivascular lymphocytic infiltrate which can be seen in several other conditions like lichen simplex chronicus and early prurigo nodularis. As the lesions of TAF usually occur on exposed parts (chin, jaw, and in our patients the face) biopsy may not be feasible and is frequently refused by the patient. Herein lies the utility of dermoscopy which can prove to be a non-invasive diagnostic tool which has not been described previously in literature. Dermoscopy in all three patients revealed dilated follicular openings consistently apart from follicular plugs, superficial white scales, and reddish-brown structureless areas. It is important to note that the infundibulum is dilated in all types of comedones, but the follicular orifice or opening is widened only in open comedones.[4] Dermoscopy of closed comedones does not show dilation of follicular openings.[5] Also, TAF is a traumatic skin condition that can lead to inflammation of the affected area of friction which is seen dermoscopically as reddish-brown areas due to the underlying vasodilatation (red) and increased melanin (black). The surrounding skin is
Table 1: Clinical, histopathological and dermoscopic differences between traumatic anserine folliculosis and comedonal acne

| Features                  | Traumatic Anserine Folliculosis                                                                 | Comedonal (closed) acne                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Etiology                  | Prolonged friction or pressure with patient’s own skin                                           | Blockage and inflammation of pilosebaceous units.                                       |
| Age                       | Common in children and adolescents                                                              | Adolescents and young adults                                                            |
| Site                      | Chin, jaw, neck                                                                                  | Face and trunk                                                                          |
| Morphology                | Skin colored follicular papules that are closely grouped and give a “goose skin appearance” and “sandpaper feel” on palpation | Flesh colored to whitish papules of 1-3 mm in diameter                                    |
| Histopathology            | Dilatation of follicular opening and retention of keratotic material, increase of stratum lucidum | Dilated follicular infundibulum (not the orifice) with loose keratin and sebum[^4]        |
| Dermoscopy                | Dilatation of follicular openings, follicular plugs, perifollicular scale, embedded hair in the follicle. Surrounded skin is affected | Follicular plugging, white scales and pale pink zone at periphery.                       |
| Response to treatment     | Removal of etiologic factor leads to improvement                                                | Anti-acne therapy is needed                                                              |

While follicular plugging and perifollicular scale may be present in both the conditions it is the dilatation of follicular opening that differentiates the two. The surrounding skin is also affected in TAF and may show reddish brown structureless areas. Removal of the incriminating factor leads to rapid resolution of lesions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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