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RESEARCH ARTICLE

ECCRINE SQUAMOUS SYRINGOMETAPLASIA IN A PATIENT WITH ROSACEA

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Eccrine, Metaplasia, Rosacea, Syringometaplasia

Abstract

Background: Eccrine squamous syringometaplasia is a benign adaptive metaplasia that occurs in response to various physiological and pathological stimuli. It is associated with chemotherapy or other dermatological disorders, particularly inflammatory conditions. We present a case of an inflammatory rosacea associated with squamous metaplasia in a female patient.

Observation: A 68-year-old female presented with a chronic skin eruption consisting of translucent and angioma-like papules, accompanied by a flushing sensation on the face. Dermoscopy revealed milium grains and an angioma-like background. Biopsy confirmed the diagnosis of erythematopapular rosacea associated with focal malpighian squamous syringometaplasia.

Conclusion: Squamous syringometaplasia can be linked to inflammatory dermatoses, such as rosacea. The inflammatory infiltrate is implicated in eccrine metaplasia, which, in turn, may contribute to an uncommon presentation of rosacea.

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Introduction:

Syringometaplasia can be defined as a reactive process occurring around eccrine glands in response to various physiological or pathological stimuli, leading to a benign and adaptive metaplasia of the duct and eccrine gland [1]. There are three types of syringometaplasia: squamous, mucinous, and adenoid. Squamous syringometaplasia is the most common subtype, classified into two types: the first associated with chemotherapy and the second linked to dermatological conditions, including infectious, neoplastic, or inflammatory disorders [2,3]. In this report, we present the case of a patient who presented with a chronic papular facial eruption, accompanied by a sensation of flushing and burning. Histological examination confirmed the diagnosis of papulopustular rosacea associated with syringometaplasia.

Observation:

A 68-year-old female, under observation for an unspecified rheumatic condition, presented during the summer seeking management for a facial eruption that had been progressing over the past 20 years. She complained of a burning sensation, accompanied by flushing, particularly during sun exposure, exposure to heat, and the

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consumption of spicy foods. The patient reported a pattern of episodic exacerbation during the summer months and remission in the winter. No history of tuberculosis or systemic symptoms was reported.

Dermatological examination revealed the presence of multiple firm, translucent papules in some areas and erythematous-violet papules in others. These lesions were situated on an erythematous background, predominantly on the cheeks, chin, and forehead, forming a hemifacial distribution that extended to the neck and scalp (Fig. 1a, b). Dermoscopy identified several milium grains with an angioma-like appearance, with suspected lipid features on the cheeks (Fig. 2a, b, c).

Considering this clinical presentation, potential diagnoses included granulomatous rosacea, small-nodular sarcoidosis, crystalline miliaria, and lupus miliaris tuberculosis. An eccrine gland anomaly, specifically eccrine syringometaplasia, was also considered due to the predominance of the eruption on the face, the translucent nature of the papules, and the aggravation with heat.

A 5mm punch biopsy was performed, revealing erythematopapular rosacea associated with milium grains and focal malpighian syringometaplasia (Fig. 3a, b, c). Post-biopsy, the patient was educated on hygienic-dietary measures. She was prescribed an anti-redness cream and a three-month course of tetracycline, resulting in slight improvement, albeit hindered by the patient's poor adherence to the therapeutic regimen.

Discussion:

Squamous syringometaplasia is a metaplastic process that replaces the normal cuboidal epithelium of eccrine sweat glands with a keratinizing malpighian epithelium similar to the epidermal spinous layer [4]. Squamous syringometaplasia is categorized in to two types. The first type is associated with chemotherapy drugs such as carmustine, cytarabine, cyclophosphamide, daunorubicin, cisplatin, 5-fluorouracil, doxorubicin, etoposide, methotrexate, and others [2,5]. Clinically, in such cases, it presents as a skin eruption consisting of macules, papules, and vesicles that appear between 2 to 39 days after chemotherapy administration. The second type has been observed in various dermatological conditions, including neoplastic pathologies like keratoacanthoma and Squamous Cell Carcinoma [2], mycosis fungoides [6], infections by cytomegalovirus and herpes, especially in HIV patients [7,8], as well as inflammatory conditions, such as panniculitis, scleroderma, and lupus.

In the latter cases, the inflammatory infiltrate (granulomatous, neutrophilic, or lymphocytic) leads to gland and eccrine duct necrosis, resulting in the regeneration of their epithelium in a keratinizing form. It is important to note that this type of syringometaplasia usually does not cause a significant change in the clinical features of the associated condition. It is often discovered incidentally through histopathological examination [1].

Squamous syringometaplasia associated with popular erythematous rosacea has not been previously documented. The clinical presentation of our patient is notably atypical compared to the classic inflammatory rosacea. This prompts us to consider whether the metaplastic process within the eccrine glands themselves could be the root cause of the distinctive clinical and dermoscopic features observed in our patient. Further investigation and exploration of this unique case may provide valuable insights into the complex interplay between metaplastic processes and dermatological conditions.

Conclusion:

For the first time, rosacea is described in association with squamous syringometaplasia. The inflammation induced by rosacea appears to be a key factor in the metaplastic changes occurring in the eccrine glands and ducts. However, intriguingly, this metaplasia may, in turn, contribute to the clinical presentation of rosacea, characterized by a papular, angioma-like, and translucent appearance. This novel observation underscores the intricate relationship between inflammatory processes and metaplastic changes within eccrine structures, providing a unique perspective on the varied manifestations of dermatological conditions. Further research and exploration are warranted to elucidate the underlying mechanisms and potential therapeutic implications of this distinctive association.

Consent

The examination of the patient was conducted according to the Declaration of Helsinki principles.



Fig1.a: Erythematous papular eruption with angioma-like features on the face, displaying a hemifacial pattern on the forehead



Fig1.b: Erythematous papular eruption with angioma-like features on the face, displaying a hemifacial pattern on the forehead

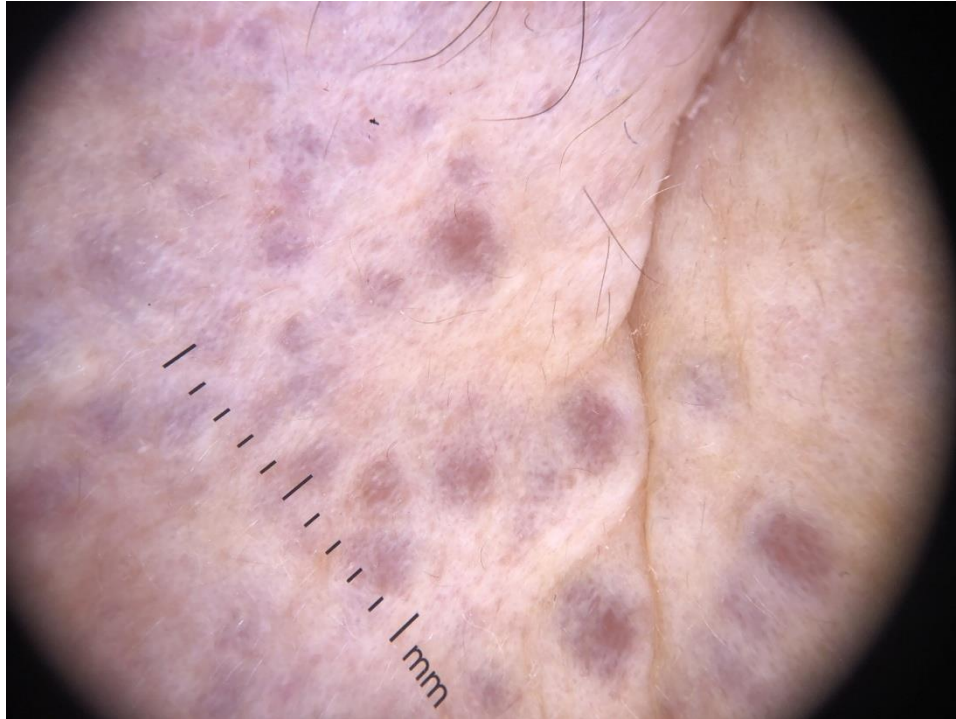


Fig2.a: Dermoscopy reveals angioma-like features

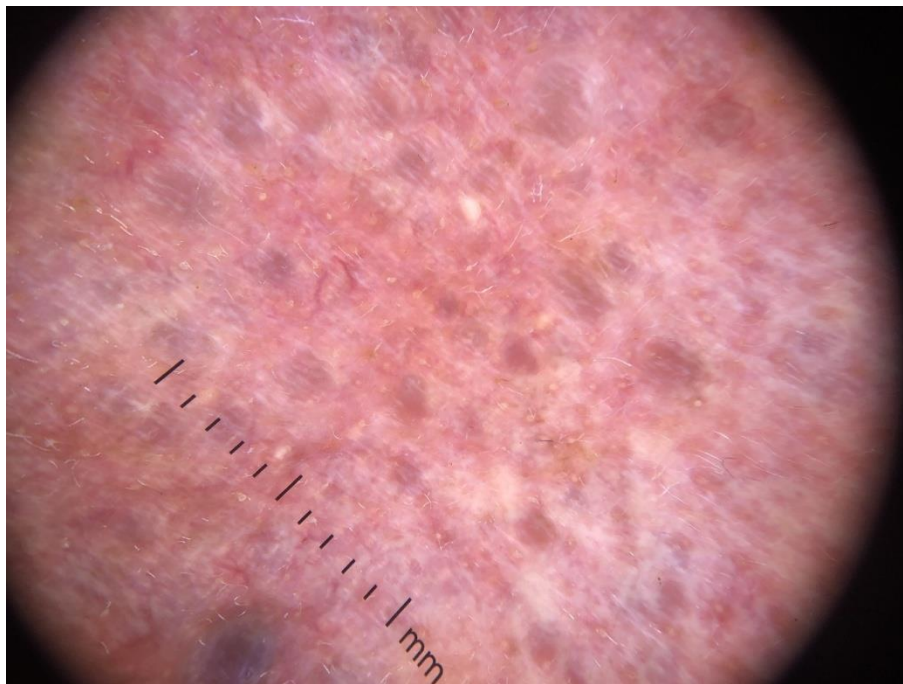


Fig2.b: Dermoscopy reveals milium grains

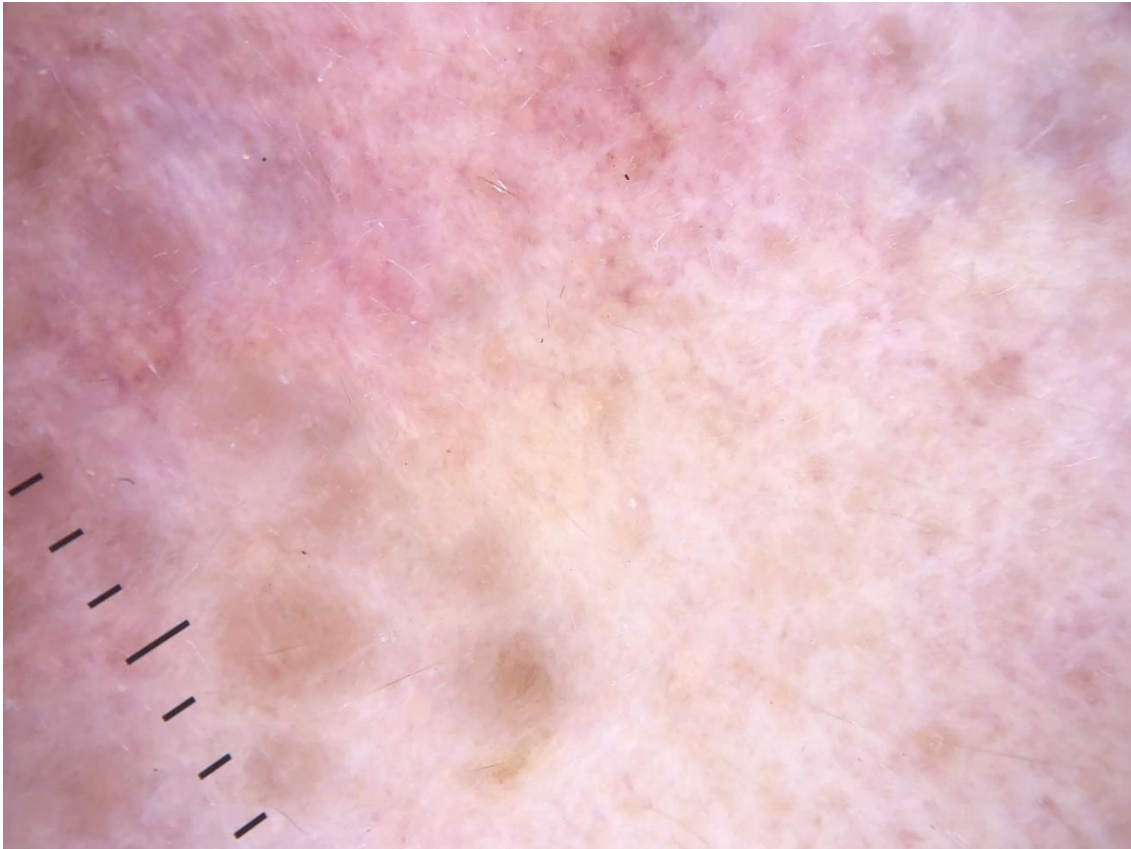


Fig2.c: Dermoscopy reveals suspicion of a lupoid aspect

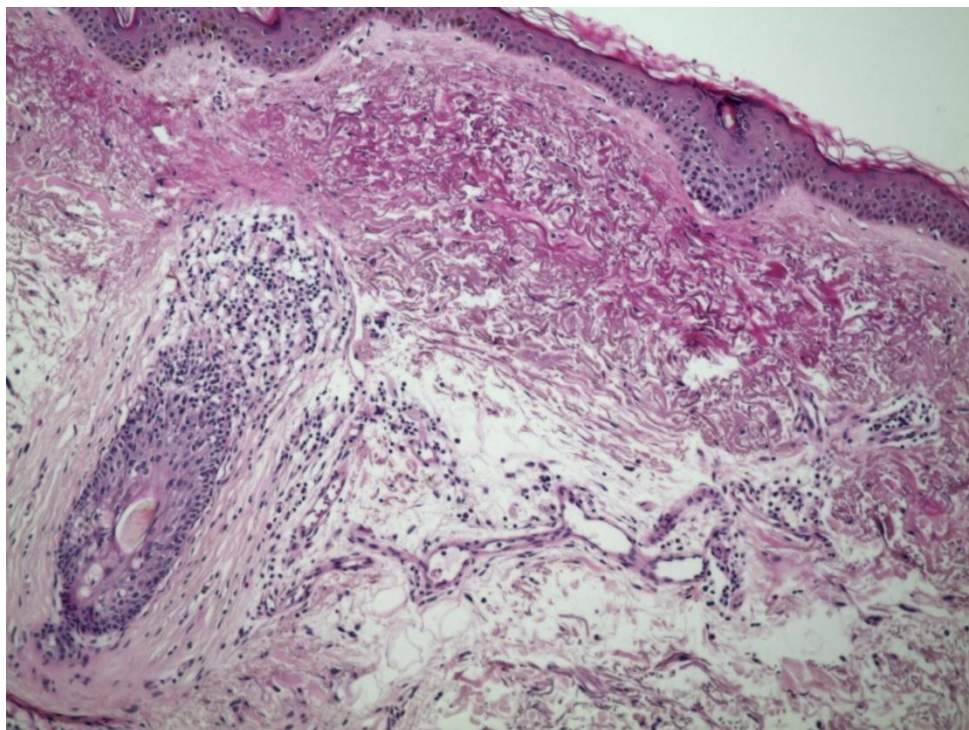


Fig3.a: Histopathological examination at 100x magnification demonstrates telangiectasias, perivascular, and perifollicular lymphoplasmacytic inflammatory infiltrates, along with milium grains

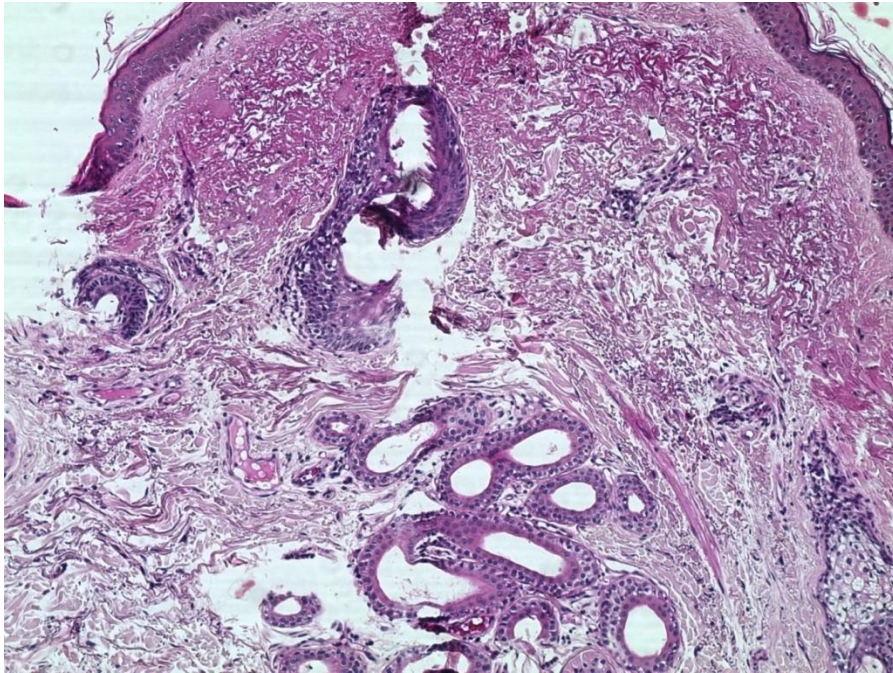


Fig3.b: Squamous metaplasia of a sweat duct near dilated sweat glands at 100x magnification

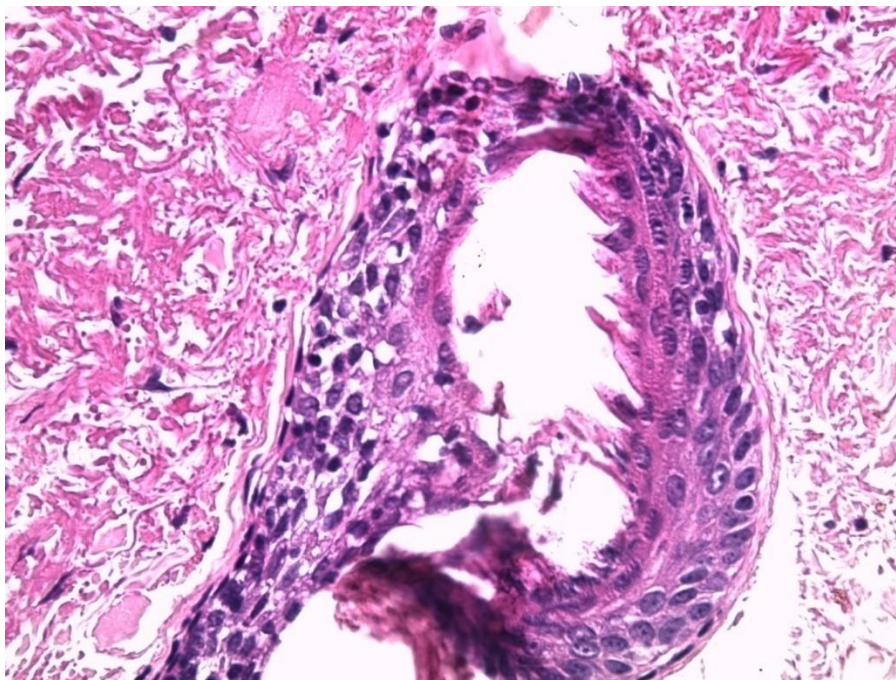


Fig3.c: Detailed view of the duct with malpighian metaplasia of the lining, highlighted by an eosinophilic cuticle at 400x magnification .

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Figure's Legends:

Figure 1: Erythematous popular eruption with angioma-like features on the face, displaying a hemifacial pattern on the forehead (a, b).

Figure 2: Dermoscopy reveals angioma-like features (a), milium grains (b), and suspicion of a lupoid aspect (c).

Figure 3: Histopathological examination at 100x magnification demonstrates telangiectasias, perivascular, and perifollicular lymphoplasmacytic inflammatory infiltrates, along with milium grains (a). Squamous metaplasia of a sweat duct near dilated sweat glands at 100x magnification (b). Detailed view of the duct with malpighian metaplasia of the lining, highlighted by an eosinophilic cuticle at 400x magnification (c).