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Psoriasiform Dermatitis of the Nipple-Areolar Complex Mimicking Mammary Paget Disease in a Young Woman: A Case Report

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Abstract

Persistent unilateral nipple-areolar lesions pose a diagnostic challenge because inflammatory dermatoses may resemble mammary Paget disease. Although patient age influences clinical suspicion, prolonged symptoms warrant careful assessment and clinicopathological correlation. A 21-year-old woman was referred to a breast clinic with a seven-month history of pruritus and ulceration of the left nipple-areolar complex. She had undergone drainage of an ipsilateral breast abscess one month before referral. Examination revealed marked erythema and scaling of the left nipple-areolar complex, without palpable lymphadenopathy. Breast ultrasonography demonstrated inflammatory changes and a complex collection measuring approximately 35 × 17 mm, interpreted as an abscess, together with ipsilateral axillary lymph nodes considered likely reactive. A skin punch biopsy showed regular acanthosis, thinning of the suprapapillary plates, hypogranulosis, hyperkeratosis with neutrophils, dilated dermal vessels, and a perivascular lymphocytic infiltrate. These findings supported psoriasiform dermatitis, with psoriasis requiring clinical correlation. No in situ or invasive neoplasia was identified in the sampled tissue. This case illustrates the clinical overlap between inflammatory nipple dermatoses and mammary Paget disease and highlights the value of tissue sampling in persistent unilateral lesions. Interpretation of a benign biopsy should remain linked to the clinical course, particularly when symptoms persist or clinicopathological discordance arises.

Categories: General Surgery
Keywords: mammary paget disease, nipple-areolar complex, nipple eczema, psoriasiform dermatitis, punch biopsy

Introduction

Persistent erythema, scaling, pruritus, or ulceration of the nipple-areolar complex may occur in both inflammatory and neoplastic conditions. Their overlapping appearance can make clinical differentiation difficult. Histopathological examination can aid in the differential diagnosis by identifying the intraepidermal neoplastic changes characteristic of mammary Paget disease [1].

Mammary Paget disease commonly presents with unilateral nipple-areolar changes and may be associated with underlying breast carcinoma. Its resemblance to benign skin disorders creates a risk of delayed recognition [2]. Conversely, inflammatory dermatoses can produce a clinically concerning appearance and require histological assessment to clarify the diagnosis.

We describe a young woman with persistent unilateral nipple-areolar changes and an ipsilateral breast abscess whose skin biopsy demonstrated psoriasiform dermatitis. This case highlights the importance of maintaining a high index of suspicion for mammary Paget disease and interpreting histopathological findings in conjunction with the clinical presentation.

Case Presentation

A 21-year-old woman was referred to a Senology appointment in 2026 for evaluation of persistent pruritus and ulceration of the left nipple-areolar complex, which had been present for seven months. One month before referral, she had undergone drainage of a left breast abscess in the emergency department.

Her medical history included polycystic kidneys and active smoking. She reported no similar skin lesions elsewhere on her body, including the limbs. No family history of malignancy was reported. Menarche had occurred at nine years of age. She was gravida one para one (G1P1), had delivered at 19 years of age, and had breastfed for seven months. Her history included one year of oral contraceptive use.

Physical examination showed marked erythema and scaling of the left nipple-areolar complex (Figure *1*). No palpable lymphadenopathy was identified.



FIGURE 1: Clinical photograph showing the unilateral nipple-areolar erythematous and scaly lesion of the left nipple-areolar complex.

Breast ultrasonography demonstrated skin thickening and altered breast echotexture in the lower outer quadrant of the left breast, with markedly increased echogenicity of the surrounding fat, consistent with inflammation. A hypoechoic collection containing internal echoes measured approximately 35 × 17 mm. It showed posterior acoustic enhancement and an echogenic peripheral rim with marked Doppler vascularity, without internal vascularity. These findings were interpreted as compatible with an abscess. Several ipsilateral axillary lymph nodes were considered likely reactive.

Given the prolonged, unilateral nipple-areolar changes, a skin punch biopsy was performed. Histopathological examination showed regular acanthosis, thin suprapapillary plates, hypogranulosis, and hyperkeratosis with neutrophils. The dermis contained dilated vessels and a perivascular lymphocytic infiltrate. The morphological findings were considered compatible with psoriasiform dermatitis, with psoriasis raised as a possibility requiring clinical correlation. No in situ or invasive neoplasia was identified in the sampled tissue.

The histopathological findings described above were obtained from the pathology report; the corresponding histopathology images were not available to the authors for inclusion in this report.

The patient was referred to Dermatology for further assessment and management of the nipple-areolar

lesion but did not attend the scheduled appointments. Consequently, subsequent dermatological assessment, treatment, and clinical outcomes could not be documented.

Discussion

The central diagnostic challenge in this case was distinguishing an inflammatory nipple dermatosis from mammary Paget disease, despite the patient's young age. Comparison with the contralateral nipple-areolar complex may provide additional clinical clues to support this differential diagnosis. Although the patient was young, the seven-month history of unilateral pruritus, scaling, and ulceration warranted histopathological assessment. Mammary Paget disease can resemble benign inflammatory conditions, including eczema and psoriasis; therefore, persistent nipple-areolar changes require assessment beyond their clinical appearance [1].

Previous reports illustrate the overlap between psoriasis and other nipple-areolar disorders. Saritas et al. described a 31-year-old woman with a three-year history of an erythematous, scaly plaque confined to the nipple-areolar complex, with psoriasis diagnosed following incisional biopsy [2]. Similarly, our patient presented with persistent inflammatory changes involving the nipple-areolar complex, and biopsy identified a psoriasiform pattern. However, she was younger, had a shorter symptom duration, and had a coexisting ipsilateral breast abscess. Furthermore, the pathology report in our case suggested psoriasis as a possibility requiring clinical correlation rather than establishing a definitive diagnosis.

Adjei et al. reported a woman in her late 60s with a three-year history of a painful, unilateral, scaly, ulcerative breast plaque [3]. Histopathology demonstrated psoriasiform epidermal hyperplasia, dilated vessels, and a superficial perivascular inflammatory infiltrate, overlapping with the findings described in our patient. Their patient improved markedly after treatment with risankizumab. In contrast, our patient did not attend the scheduled Dermatology appointments, preventing further clinical assessment and documentation of treatment response. This difference limits comparison of the clinical course and reinforces the importance of dermatological follow-up when biopsy findings require clinical correlation.

The distinction between a psoriasiform reaction pattern and a definitive diagnosis of psoriasis is particularly relevant in this case. Regular acanthosis, thin suprapapillary plates, hypogranulosis, hyperkeratosis with neutrophils, and dilated dermal vessels supported the interpretation of psoriasiform dermatitis. However, a complete dermatological examination and longitudinal assessment were unavailable. Accordingly, psoriasiform dermatitis remains the diagnosis supported by the available pathology report, while psoriasis remains a possible underlying clinical diagnosis.

The ipsilateral breast abscess added complexity to the presentation. Ultrasonography identified a collection and surrounding inflammatory changes, but these findings did not establish the cause of the persistent nipple-areolar lesion. The available clinical and pathological information does not demonstrate a causal relationship between the abscess and the dermatitis. They are therefore best described as coexisting findings.

The benign punch biopsy findings also require consideration of sampling limitations. Karakas noted that punch biopsies may contain limited epidermis and that repeat biopsy may be necessary when the initial specimen does not resolve the clinical concern [1]. In our patient, no neoplasia was identified in the sampled tissue. Nevertheless, persistent or progressive nipple-areolar changes would have warranted reassessment and consideration of further sampling. Because follow-up was interrupted, subsequent clinical resolution and sustained clinicopathological concordance could not be established.

This report has several limitations. The timing of ultrasonography relative to abscess drainage was not specified, and details of previous topical treatments, microbiological investigations, biopsy site and depth, and any immunohistochemical studies were unavailable. Histopathological findings were obtained from the pathology report, as the corresponding images were not available to the authors. Although the patient was referred to Dermatology, she did not attend the scheduled appointments. Consequently, a complete dermatological assessment, subsequent treatment, and clinical outcomes could not be documented. These limitations prevent confirmation of psoriasis and assessment of the subsequent course of the lesion.

This case highlights psoriasiform dermatitis as a potential explanation for persistent unilateral nipple-areolar changes that raise concern for mammary Paget disease. Histopathological assessment identified a psoriasiform inflammatory pattern; however, the absence of dermatological follow-up precluded assessment of the clinical course and treatment response, limiting the final diagnostic characterization. The diagnostic value of biopsy is greatest when its findings can be correlated with a complete clinical assessment and the subsequent course of the lesion.

Conclusions

Psoriasiform dermatitis can produce persistent unilateral nipple-areolar changes that clinically resemble mammary Paget disease. In this young woman, punch biopsy supported psoriasiform dermatitis, with no neoplasia identified in the sampled tissue. A definitive diagnosis of psoriasis remained dependent on clinical

correlation.

This case highlights the importance of histopathological assessment in persistent unilateral nipple-areolar lesions and of interpreting biopsy findings alongside clinical assessment and follow-up. Although the patient was referred to Dermatology, she did not attend the scheduled appointments, limiting further diagnostic clarification and assessment of treatment response and clinical outcomes.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Disclosures

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