When Therapy Leaves a Mark: A Case of Ribociclib-Induced Vitiligo Reversed with Abemaciclib

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Introduction

CDK4/6 inhibitors are essential in managing HR-positive, HER2-negative metastatic breast cancer, but can cause cutaneous side effects. While alopecia and rash are common, pigmentary disorders like vitiligo are rare and often underrecognized, occurring in fewer than 1% of patients. Emerging reports suggest that vitiligo-like lesions may occur more frequently with ribociclib compared to other CDK4/6 inhibitors. We present a case of ribociclib-induced vitiligo that improved significantly after switching to abemaciclib.

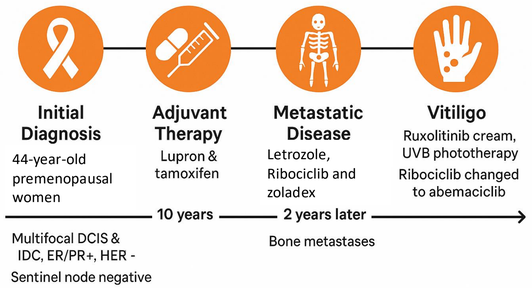


Figure 1. *Disease Course and Treatment Timeline*

Case Presentation

A 44-year-old premenopausal woman was initially diagnosed with multifocal disease in the right breast, consisting of two primary lesions: ductal carcinoma in situ (DCIS), ER/PR positive, grade 3, and invasive ductal carcinoma (IDC), ER/PR positive, HER2 negative. Sentinel lymph node biopsy was negative. She underwent adjuvant therapy with Lupron and tamoxifen but self-discontinued treatment after three years. Ten years later, she presented with new-onset persistent left hip pain, prompting further evaluation that revealed metastatic breast cancer involving the bones. Treatment was initiated with ribociclib, letrozole, and zoladex; genomic profiling (NGS) showed no targetable mutations.

After two years of therapy, the patient developed depigmented patches localized predominantly on the dorsal aspect of her hands, anterior neck, and face, along with ill-defined hypopigmented to near-depigmented patches on her forearms and upper arms, involving approximately 20% of her body surface area. Notably, her back and feet were unaffected. Dermatology consultation led to initiation of ruxolitinib cream, applied daily to twice daily on affected areas, along with narrowband UVB phototherapy administered three times weekly starting at 350 mJ/cm², with incremental increases of 50 mJ/cm² per session, up to a maximum dose of 4000 mJ/cm². Due to suspicion of ribociclib-induced vitiligo, ribociclib was discontinued and replaced with abemaciclib, resulting in significant repigmentation of previously affected areas.



Image 1: *Onset of Vitiligo-Like Lesions During Ribociclib Therapy*



Image 2 : *Improvement of Pigmentary Changes After Transition to Abemaciclib*

Discussion

Vitiligo-like lesions are rare cutaneous toxicities associated with CDK4/6 inhibitors and may be underreported due to delayed recognition or asymptomatic presentation [1]. In our patient, the lesions primarily affected sun-exposed areas, consistent with prior reports. Initial treatment with topical ruxolitinib and NB-UVB phototherapy yielded limited benefit, but discontinuation of ribociclib and transition to abemaciclib led to significant repigmentation. This suggests a potential drug-specific effect and highlights the importance of considering medication changes when managing CDK4/6i-induced pigmentary changes. [2]. Prompt recognition and tailored dermatologic management, including coordination with oncology for treatment modification, can improve outcomes and patient quality of life.

Conclusion

This case contributes to the limited literature on CDK4/6 inhibitor-induced pigmentary changes. It underscores the need for clinical awareness of this rare toxicity and demonstrates that switching agents within the same drug class may offer symptom resolution without compromising cancer treatment.

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