

Koebnerization secondary to microblading

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Keywords: Koebnerization, microblading, tattoo, vitiligo

1 | INTRODUCTION

Microblading is a minimally invasive tattooing of the eyebrows which lasts on average 8 months. It is commonly used by patients who suffer eyebrow loss with alopecia areata and takes the form of simulated darker hairs superimposed on a lighter brown tattooed arch. It bears the same risks as other tattoo procedures, including allergic contact dermatitis, granulomatous inflammatory reactions, and infections.¹

2 | CASE REPORT

A 28-year-old fair-haired Lithuanian woman presented with bilateral, symmetrical periocular depigmentation after 8 years of repeated microblading of her eyebrows to enhance the color and definition. She

was extremely distressed by the appearance, and not sleeping with worry about disease progression. She had a positive family history of autoimmune disease, but was otherwise systemically well and on no medication.

Examination under Woods light showed striking symmetrical, sharply demarcated, periocular depigmentation extending beyond both eyebrows, and toward the medial canthi bilaterally (Figures 1 & 2). Her natural eyebrow hair color and quality were difficult to assess due to recent microblading. She was also noted to have a patch of depigmentation on her right forearm measuring 4 × 6 cm which had been stable for a number of years. She did not recall any trauma to this site. Her vitamin B12 levels and thyroid function tests were all within normal limits and she had a weakly positive ANA with a titer of 1:80 (homogenous pattern).

She was diagnosed with vitiligo, arising from the koebnerisation effect of microblading. Tacrolimus 0.1% ointment was prescribed and with advice on sun protection and avoidance for the depigmented areas, in addition to a potent topical corticosteroid for her forearm. She was also referred to our skin camouflage clinic (who recommend make up which lasts 4 days through swimming and showering) and advised to stop microblading.

3 | DISCUSSION

The Koebner phenomenon, also known as the isomorphic phenomenon, is the development of isomorphic pathologic lesions in the traumatized uninvolved skin of patients who have cutaneous diseases.² Psoriasis, lichen planus, and vitiligo are the most commonly implicated dermatoses.

Microblading, also known as “eyebrow embroidery” is a popular semi-permanent tattooing technique used on the eyebrows to create, enhance or reshape their appearance. A small handheld blade



FIGURE 1 Striking symmetrical, sharply demarcated, periocular depigmentation extending beyond both eyebrows, and toward the medial canthi bilaterally



FIGURE 2 Striking symmetrical, sharply demarcated, periocular depigmentation extending beyond both eyebrows, and toward the medial canthi bilaterally [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/jocd.13695)]

composed of several tiny needles is used to add semi-permanent pigment to the upper layer of the dermis. As a result, this cosmetic tattoo fades more rapidly than traditional tattooing techniques, which deposit pigment deeper. Top-ups are required at least every year.

While there is one reported case in the literature of a delayed hypomelanosis occurring secondary to cosmetic tattooing of the eyelids,³ to the best of our knowledge, there are no reported cases of koebnerization secondary to eyebrow tattooing.

Patients with psoriasis and vitiligo are often aware of the possibility of koebnerization with trauma; however, they might not necessarily consider cosmetic procedures to be “traumatic” and therefore should be counseled accordingly, particularly given the growing trend of aesthetic procedures. In addition, both of these

autoimmune conditions can arise at any stage of life, with trauma potentially acting as the trigger.

Other minimally invasive aesthetic procedures such as micro-needling and chemical peels could also theoretically be associated with the Koebner phenomenon in susceptible individuals. This re-enforces the need to ensure that those providing these aesthetic treatments are suitably qualified, preferably Dermatologists and Dermatologic surgeons, who are equipped with the skillset, knowledge and expertise in preventing, recognizing and managing the Koebner phenomenon, particularly given the significant psychological consequences it can have.

CONFLICT OF INTEREST

None disclosed for both authors.

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How to cite this article: Tierney E, Kavanagh GM.

Koebnerization secondary to microblading. *J Cosmet Dermatol*. 2021;20:1040–1041. <https://doi.org/10.1111/jocd.13695>