

CLINICAL IMAGE

Micropigmentation of the nipple–areola complex after breast cancer reconstruction surgery

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A 62-year-old woman presented with progressive skin changes of the right breast. The patient had a history of lifelong atopic dermatitis and ductal carcinoma *in situ* of the right breast (Tis, N0, M0) status post right breast complete mastectomy and breast mound reconstruction, then breast implant followed by partial nipple reconstruction. She had received tattooing of the right areolar complex ~1 year later. She was continued on serial clinical exams with ultrasounds and mammograms for surveillance. Subsequent follow-up exam was negative for new breast lumps but revealed worsening skin changes at the right reconstructed breast mound with a large circular hyperpigmented, lichenified plaque with a rim of erythema measuring 5 cm × 6 cm at the site of tattooed areola and extending into the lateral breast (Fig. 1). The lesion appeared centered around the right areola. The patient was subsequently referred to dermatology and was diagnosed with allergic contact dermatitis of the right breast, likely secondary to red dye pigment reaction related to the areola tattoo. She was started on treatment with fluocinonide ointment with mild improvement. Due to persistence of the rash and concern for recurrent breast malignancy, a punch biopsy was completed with pathology revealing benign skin with hyperkeratosis and chronic inflammation. Skin patch testing was also done, which showed positive reactions for p-tert-Butylphenol formaldehyde resin, propylene glycol and cobalt chloride. During follow-up 1 year later, the patient continued to experience itching, dryness and lichenification at the right breast (although with improvement) and she was switched to tacrolimus for continued management.

Micropigmentation (tattooing) is a procedure in which semi-permanent color or pigment is applied to the top layer of the skin to re-create the color and shape of the nipple–areola complex. It is used to improve the aesthetic appearance of the breast



Figure 1: Image of the right breast with persistent hyperpigmentation and lichenified skin changes with rim of erythema after tattoo dye pigment application.

for patients who have had breast cancer reconstruction surgery and has been shown to have high satisfaction rates due to improvement in patients' perceptions of their body image [1]. Although considered to be a relatively safe and simple procedure, some of its risks include scarring and allergic reactions to dye pigment. Skin manifestations of these allergic reactions can present heterogeneously as lichenoid, dermatitis, granulomatous or pseudolymphomatous reactions [2, 3].

CONFLICT OF INTEREST STATEMENT

None declared.

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CONSENT

Consent has been obtained and the form is available.

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