Letter to the Editor
Editöre Mektup
DOI: 10.4274/turkderm.84594
Turkderm-Turk Arch Dermatol Venereology 2018;52:74-5

Frictional melanosis of the areola associated with severe atopic dermatitis: A case report with striking dermoscopic features

Şiddetli atopik dermatitli olguda areolar friksiyonel melanozis: Çarpıcı dermoskopi ile olgu sunumu

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Keywords: Areola, melanosis, dermoscopy

Anahtar Kelimeler: Areola, melanozis, dermoskopi

To the editor,

The nipple and areola region are affected by various skin disorders, including eczema, Paget's disease, and nevoid hyperkeratosis. Pigmented lesions are produced on the nipple and areola by pigmented Paget's disease (PPD), melanoma, pigmented basal cell carcinoma, and melanosis of the nipple and areola (MNA)[1-4]. Herein, we report a female patient who had severe atopic dermatitis with areolar frictional melanosis.

A 38-year-old female patient presented with bilateral dark-brown-colored reticulated plaques on the areola and inverted nipples for approximately 5 years. Additionally, she had pruritus for approximately 10 years. She did not have any history of using prescription or over-the-counter drugs or any herbal supplements other than topical corticosteroids and moisturizers. She claimed to have made no contact with any foreign substances or excessive heat. She did not have any chronic illness, and her family history was unremarkable. A dermatological examination revealed widespread lichenified plaques and severe eczema affecting her whole-body area (Figure 1a). There were sclerosing pinkish-white lesions, impetiginous crusts, and different-sized dark-brown reticulate, irregular, asymmetrical pigmented lesions located on the outer part of the areola, and the normal anatomical structure of the nipple and areola region was destroyed (Figure 1b). Dermoscopic examination of the areolar lesions showed yellow crusts, pinkish-white structureless areas, and a pigmented thick, regular reticular network of thick lines, similar to a cross embroidery (Figure 1c). Physical examination showed no palpable mass or axillary lymphadenopathy. The mammary ultrasonography was normal. Neither she nor her family had a history of breast cancer. Laboratory tests showed a high level of immunoglobulin E and hypereosinophilia with

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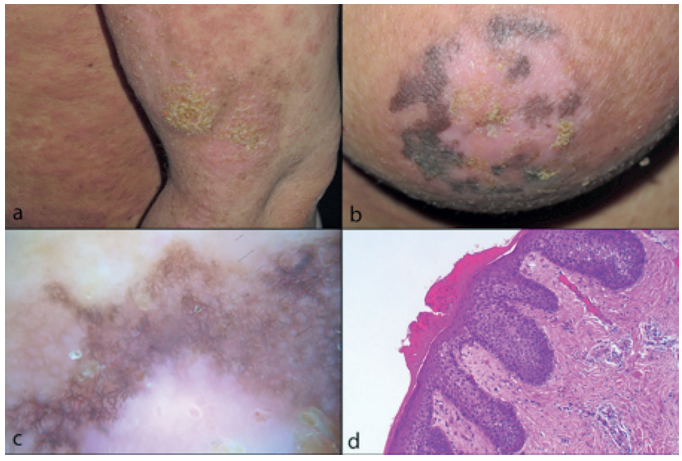

Figure 1. a) Eczematized skin lesions with yellow crusts over the arm, b) irregular, asymmetrical pigmented lesions with sclerosing pinkish-white lesions over the areola, c) dermoscopic view with pinkish-white structureless areas, pigmented, regular reticular network of thick lines, similar to a cross embroidery, d) parakeratosis, serum exudation, mild spongiosis and irregular acanthosis in epidermis and perivascular lymphocyte infiltration in the dermis (hematoxylin and eosin x100)

a normal white blood cell count. The histopathological examination of the eczematous lesions was consistent with dermatitis. A biopsy of the areolar pigmented lesion showed focal spongiosis, irregular acanthosis, and increased melanin pigment in the cytoplasm of the keratinocytes and fibrosis (Figure 1d).

Reticulate pigmentary skin disorders of the breasts include erythema ab igne, prurigo pigmentosa, PPD, post-inflammatory hyperpigmentation secondary to contact dermatitis, and hyperpigmentation due to some medications[1,5]. MNA is a disease that affects this region and that can be particularly confused with melanoma and PPD[2-4]. MNA is rarely observed and is generally associated with pregnancy. Melanosis is more commonly seen on the vulvar, penile, labial, and conjunctival areas. Few cases of MNA have been reported in the literature. Isbary et al.[2] reported five cases of histologically confirmed MNA over a 2-year period, of which three had only nipple involvement and two had lesions on both the nipple and the areola; this actually confirms that MNA is not very rare[2-4]. In case of pigmented lesions of the skin, dermoscopic patterns of the genital and mucosal areas are very well established, however, owing to the rarity of pigmented lesions of the nipple and areola region, the patterns here are uncertain. Dermoscopic patterns of MNA reported in some cases included ring-like cobblestone structures with brown rings around a lighter center, reticulation, narrow parallel lines, and a mixture of these patterns[2,3,6]. A cobblestone pattern may be associated with all pigmented lesions of the nipple owing to the natural cobblestone surface of the nipple[2].

Clinical features of pigmented mammary Paget's disease (PMPD) are similar to those of eczema and melanoma. It typically involves the nipple, but it is rarely confined to the areola complex[1]. Our patient showed pigmented lesions over the areola and destruction of the nipple structure in a manner resembling PMPD. However, the lesions were distributed bilaterally and had developed slowly over the years, and the histopathological examination was consistent with frictional changes and melanosis. Pruritus leads to scratching or rubbing; this can result in secondary skin changes such as excoriations, hyperpigmentation, hypopigmentation, and lichenification. In our patient, hyperpigmentation of the areola may have been due to continuous rubbing instead of scratching, as a result of severe itching induced by atopic dermatitis. Lichenified and eczematous lesions were also seen owing to scratching over the extremities and trunk. Repeated friction may also have been responsible for the pigmentation of the lesions via mechanical stimulation of melanocytes over the areola region[7]. Topical calcineurin inhibitors, especially when used on sun-exposed sites, may also cause hyperpigmentation. Shi et al.[5] had reported a patient with chronic lip dermatitis who developed multiple labial melanotic macules after the application of tacrolimus 0.1% ointment and pimecrolimus 1% cream. Nonetheless, our patient did not have a history of topical or systemic drug use other than topical steroids and moisturizers for atopic dermatitis. Despite the atypical clinical appearance with asymmetric pigmentation and whitish areas, the dermoscopic examination has been distinguished from malignant lesions with a regular thick pigmented network structure. Frictional melanosis should be kept in mind in areolar pigmented lesions.

Ethics

Informed Consent: Informed consent was taken.

Peer-review: External and internal peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Ş.Y., S.A., Concept: S.A., Design: S.A., Ş.Y., Data Collection or Processing: F.G., F.C., P.G., Analysis or Interpretation: S.A., Ş.Y., Literature Search: F.C., F.G., Writing: S.A.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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