Becker nevus with vitiligo and lichen planus: Cocktail of dermatoses

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Abstract
Context: Becker nevus has been reported to be associated with lichen planus (LP) in isolated case reports in past. The association of LP and vitiligo has been noted in few cases and has been attributed to a common autoimmune etiology. The coexistence of lichen planus, vitiligo and Becker nevus has not been reported so far. Case Report: A thirty five years old male presented with lesions of Becker nevus along with vitiligo and Lichen planus coexisting at one place on right side of the chest. Vitiligo and Becker nevus could not be treated. Lichen planus was confirmed histopathologically. We were able to treat lichen planus with topical potent steroids, tacrolimus and systemic antihistamines. The vitiligo lesion in our case was resistant to treatment. Conclusion: This case is being reported for the rare occurrence of three different well defined skin conditions in our patient and reviews the possible known etiological factors for their coexistence.

Keywords: Becker nevus, vitiligo, lichen planus, associations, coexistence, dermatoses.

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Introduction
Becker’s nevus commonly presents as a unilateral hyperpigmented, irregular macule or patch or verrucous plaque with a variable hypertrichotic element (in 56%) located over the shoulder, anterior chest or scapula, and back, and rarely, on the face, neck, and extremities. The general prevalence is around 0.5% and males are more commonly affected, with a male to female ratio of 5:1. Most often it is acquired and manifests during childhood or adolescence [1]. Becker nevus has been associated with lichen planus in some case reports. The coexistence of LP and vitiligo has been explained in literature due to common autoimmune etiology. We came across a patient with Becker nevus and coexistent vitiligo and lichen planus and review here the possible cause of their association.

Case Report
A thirty five years male presented with the chief complaint of asymptomatic discoloration of the skin with both hyperpigmented and hypopigmented lesions on the trunk since five years. On dermatological examination there was a single hyperpigmented, hypertrichotic plaque with well-demarcated but irregular borders on the right thoracic area. The lesions had first appeared when patient was 15 years old. There was no history of any neurological or musculoskeletal complaints. The history and morphology of the lesion was consistent with the Becker’s nevus (Fig.1). Also, there was a well defined triangular depigmented patch close to the first hyperpigmented lesion with a history of 5 years. There were no other depigmented areas on the skin but interestingly patient had a third type of skin lesions consisting of violaceous papules and plaques on the trunk which had appeared around the same time when patient had noticed the white spot. Patient complained of itching in these lesions. Patient denied strongly for history of topical application on these lesions specially topical steroids. The depigmented patch was clinically
diagnosed as vitiligo and the violaceous spots were suspected to be of lichen planus. Oral cavity, nails and scalp were normal on examination.

The General Physical and systemic examination did not reveal any abnormality. We specially looked for other known associations with the Becker nevus. There was no muscle hypoplasia or localized lipoatrophy on right thoracic area. The limb size on comparison was found almost equal with the other side. The spine and genital examination was normal.

Routine investigations which included complete hemogram, biochemistry and skia gram chest were found to be within normal limits. Biopsy was taken from violaceous papules and the histopathology showed orthokeratotic hyperkeratosis, wedge-shaped hypergranulosis, acanthosis, saw-toothing of rete ridges, basal cell vacuolization, and a dense, band-like, inflammatory infiltrate in the upper dermis which was consistent with the diagnosis of LP (Fig.2).

We did not biopsy the Becker nevus and vitiligo lesion as the diagnosis was clinically apparent and also because we wanted to avoid multiple biopsies in the patient. Patient was finally diagnosed as a case of Becker nevus with vitiligo and lichen planus. Topical tacrolimus cream 0.1% and clobetasol propionate was prescribed for the LP and vitiligo lesions. Itching was controlled with systemic antihistamines. On following-up, LP lesions showed regression with the treatment, but vitiligo did not improve. Patient was shifted to oral puvasol (oral trimethoxy psoralen 25 mg tab twice a week and sun exposure after 2 hrs with eyes protection) for vitiligo but there was no response. Punch grafting was advised for vitiligo as the lesion was stable and resistant but patient was lost in follow up.

**Discussion**

Becker nevus has been considered a cutaneous marker of underlying soft tissue and bony abnormalities such as spina bifida occulta, ipsilateral limb asymmetry, pectus excavatum, herniated disk, vertebral scoliosis, or ipsilateral breast hypoplasia. A number of cutaneous associations, including intradermal and connective tissue nevi, malignant melanoma, perforating folliculitis, leiomyoma, lymphangioma, acne/acneiform eruptions and lichen planus have been described in association with this entity [2-4]. We came across a rare case of Becker nevus in a 35 year male with coexistent vitiligo and lichen planus. Becker nevus has been associated with the lichen planus in the isolated reports previously but the cause of association has yet not been described [3]. In a case reported by Puri et al [4], lesions of LP developed in a congenital Becker nevus. They suggested that keratinocyte hyperplasia and an increased number of epidermal CD1a positive dendritic cells in Becker nevus could mediate a cytotoxic T-cell response and initiate a cascade of cytokine release resulting in the lesions of lichen planus. In our case, however the Becker nevus was acquired and the LP lesions were found on the trunk but not on nevus.

Vitiligo was reported in a Becker nevus by Pavithran [5] in 1983. However, in our case vitiligo lesions was found in vicinity of the Becker’s nevus. The coexistence of LP and vitiligo is well known [6-9] and is attributed to the common immunological etiology of these two conditions. However, coexistence of both the conditions with the Becker nevus as seen in our case is a rare finding. Additional reports of this association may serve to clarify its significance.

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