Follicular Becker’s Nevus: A New Clinical Variant

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Abstract
Becker’s nevus, also known as pigmented hairy epidermal nevus, is characteristically described as a unilateral, hairy, light to dark brown macule with sharply outlined but irregular border. The etiopathogenesis of Becker’s nevus is still not clearly understood. Perifollicular pigmentation has been described earlier by some authors. But, Becker’s nevus presenting exclusively with follicular lesions has not been described. We are reporting a series of patients of Becker’s nevus with follicular lesions. The diagnosis in all the patients was made after clinicopathological correlation. Follicular epithelium may hold a significant role in the etiopathogenesis of Becker’s nevus.

Key Words: Becker’s nevus, blaschkoid pattern, follicular papules

Introduction
Becker’s nevus also known as pigmented hairy epidermal nevus was first described by Samuel William Becker in 1949,1 as an acquired localized hypermelanosis and hypertrichosis on the shoulder in two young men. It typically presents as sharply demarcated hyperpigmented patch characteristically situated over the shoulder, anterior chest or scapula. Occasionally, it may appear on atypical sites,2 such as lower back and legs and, at times, can also be multiple.3 The lesion may be present at birth4 or may develop in early childhood, but the majority of the cases are first noticed shortly before, at or after puberty. Familial cases have also been described in the literature.5 There have been reports of association of Becker’s nevus with other developmental anomalies.6-9 Some authors have even proposed the term “Becker’s nevus syndrome” for simultaneous occurrence of Becker’s nevus and unilateral breast hypoplasia or other cutaneous, muscular, or skeletal defect.10 Histopathologically, it shows slight epidermal acanthosis and regular elongation of rete ridges, variable hyperkeratosis, and acanthosis. The basal layer is hyperpigmented, with the number of melanocytes being normal or only slightly increased. But the melanin content is greatly increased. Papillary dermis shows the presence of melanophages.

The presence of follicular lesions was described by Becker as legends to figures. But even after 70 years, this finding has never been described as one of the clinical features. To the best of our knowledge, Becker’s nevus presenting exclusively with follicular lesions has not been described in the literature. We are presenting 4 cases. The diagnosis was established after clinicopathological correlation in all the patients. In addition, each patient underwent a thorough clinical examination to look for involvement of other systems.

Case Report
Case 1
A 22-year-old male had asymptomatic brownish pigmented macular lesions on the front of the right shoulder for 1 year. The lesion was slowly increasing in size. Also, the lesion was slowly becoming darker, and he had noticed an increased density of hair on the lesion. Cutaneous examination revealed light to dark brown colored round to oval 3–5 mm perifollicular macules on the anterior aspect of the right shoulder [Figure 1a] with increased hair growth when compared to a similar area on the other side. Right nipple was normal in appearance and there was no clinically obvious skeletal...
defect in the region. He also had a depigmented macule on glans penis suggestive of mucosal vitiligo. Punch biopsy specimen taken from one of the follicular lesions, on histopathological examination, showed features suggestive of Becker’s nevus [Figure 2].

**Case 2**

An 18-year-old male had asymptomatic dark brown follicular papules 2–5 mm in size on the right infraclavicular area [Figure 1b] extending onto the armpit for 2 years. The lesions were lighter to start with and slowly over few months became darker as well as palpable. Some of the papules developed terminal hair. Cutaneous examination revealed grouped, 2–5 mm sized dark brown follicular macules and papules located in the right infraclavicular region; some of the papules had thick terminal hair in the center. There was no structural abnormality noticed in the region and the right breast including the nipple was normal. Histopathological examination of one of the follicular papule revealed features suggestive of Becker’s nevus.

**Case 3**

An 18-year-old male presented with multiple grouped asymptomatic dark brown to blackish colored lesions on right upper extremity [Figure 1c]. On examination, there were multiple grouped 2–4 mm perifollicular macules arranged in a blaschkoid pattern on the right side of the upper back, extending on to the right upper extremity for 9 months. There was no structural abnormality, and hair on the lesion was increased. A histopathological examination of the punch biopsy of one of the chest lesions revealed features compatible with Becker’s nevus.

**Case 4**

A 16-year-old male presented with multiple grouped asymptomatic dark brown to blackish colored lesions on right upper extremity [Figure 1d] for 1 year. On examination, there were multiple grouped 2–4 mm perifollicular macules and papules on the right side of the upper back. There was no structural abnormality, and hair on the lesions was increased. Histopathological examination of the punch biopsy of one of the perifollicular lesions revealed features compatible with Becker’s nevus.

**Discussion**

The etiopathogenesis of Becker’s nevus remains obscure. It is considered to be a disorder of epidermal-dermal interaction perhaps augmented by hormonal influences. Many theories have been put forward in the past including the role of androgen receptors, genetic theory, etc. But none of them could fully explain all the features associated with Becker’s nevus. However, in the past few years, we have closely observed the clinical presentations of these lesions and have noticed a peculiar finding of perifollicular punctate hyperpigmented macules and at times small 1–2 mm follicular hyperpigmented papules at the periphery of the lesions. And, in these four cases, follicular lesions were the only lesions. These, we believe are different from the usual splash-on appearance described in the standard dermatology textbooks. The finding of these lesions at the periphery of late lesions, and at the center of relatively early lesions suggests these may later on become confluent and darker and even become corrugated and tend to develop terminal hair. Our findings indicate that Becker’s nevus may at least in some cases begin as perifollicular lesions. All four patients who had presented to us with exclusively follicular lesions had a relatively short history.

Figure 1: Follicular Becker’s nevus at different sites in different patients

Figure 2: Skin biopsy showing hyperkeratosis, acanthosis and darkly pigmented basal cell layer (H and E, ×10)
1.93 years). However, in the absence of long-term follow-up of these cases, it was difficult to ascertain if they eventually developed into classical lesions.

Our finding of Becker’s nevus with exclusively follicular lesions makes us believe that follicular epithelium may have a role in the etiopathogenesis of Becker’s nevus and this hypothesis needs to be further investigated.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**
There are no conflicts of interest.

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