Localized Music Box Spiny Keratoderma: A Rare Variant

Sir,

“Spiny keratoderma” is a rare dermatosis characterized by fine keratotic projections over palms soles, or other areas of body.[1] The other names for this disorder are filiform, spiked, minute, digitate, minute aggregate, and music box keratoderma. Spiny keratoderma usually involves the palms and soles in a diffuse fashion as described in the previously reported cases.[1,2] We are presenting here a rare case of localized spiny keratoderma over the right foot and sole.

A 20-year-old male presented to our skin outpatient department with multiple asymptomatic, tiny, pinhead-sized, raised projections over outer aspect of the right sole since 6 months. On examination, we found multiple discrete keratotic papules of size 1–3 mm each, present over lateral aspect of right foot and adjacent area of sole in a localized distribution. [Figures 1 and 2] Rest of the cutaneous examination was unremarkable. On histopathology, we found a broad parakeratotic column with thin underlying granular layer [Figure 3]. There was no organomegaly or splenomegaly. Routine blood tests like hemogram, liver and renal functions, and urinalysis were normal, and feces for occult blood was negative. There was no evidence of malignancy on ultrasonography of abdomen and pelvis. The patient was not taking any medication as well.

Spiny keratoderma was first described by Brown et al. in 1971 as “punctate keratoderma.” It has been named as “music box spine” keratoderma because the keratotic papules are similar to the spines of an old fashioned music box. This disorder may be inherited as an autosomal dominant trait where it presents in the second or third decade of life or it can be sporadic also.

Characterized by pinpoint keratotic papules usually limited to palms and soles, it has been described previously by different names that include palmoplantar filiform hyperkeratosis, minute aggregate keratoderma, spiked keratoderma, and minute digitate hyperkeratosis. Histopathologically, it is characterized by a column of well-defined parakeratotic cells with underlying hypogranulosis.[2]

The exact etiology of spiny keratoderma is not known till date but it may represent ectopic hair formation.[3] Repeated trauma can also induce the formation of spiny keratotic papules.

Spiny keratoderma has been reported as an incidental finding in normal healthy individuals but has also been associated with a number of neoplastic and non-neoplastic conditions.[1] Associated malignancies include several solid tumors such as squamous cell carcinoma, esophageal carcinoma, malignant melanoma, colonic cancer, and multiple myeloma.[4] Non-neoplastic conditions include asthma, Darier’s disease, tuberculosis, and renal abnormalities.

Differential diagnoses include punctate palmoplantar keratoderma, arsenical keratosis, filiform warts, and Bushke–Fischer–Brauer keratoderma. All these conditions can be easily differentiated on histopathology. Management of spiny keratoderma has been unsatisfactory and difficult to treat, and the patients are mainly concerned for cosmetic

![Figure 1: Multiple discrete keratotic papules present over lateral aspect of right foot](image1)

![Figure 2: Multiple keratotic projections over sole of right foot](image2)
reasons. Treatment includes surgical methods such as dermabrasion and paring. Topical treatment that has been tried includes 6%–10% salicylic acid, 0.05% tretinoin, urea-based emollients, 12% ammonium lactate, and 5% 5-fluorouracil. Systemic treatment with acitretin in a dose of 25 mg has been reported to be successful in one case report.[5]

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.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Mohd Mohtashim, Syed S. Amin, Mohammad Adil, Hera Tabassum

Department of Dermatology, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh, India

Address for correspondence:
Dr. Mohd Mohtashim,
H No 4/330 New Colony, Zohra Bagh, Dodhpur, Aligarh - 202 002; Uttar Pradesh, India.
E-mail: drmohtashimmbbs@gmail.com

References

1. Chee SN, Ge L, Agar N, Lowe P. Spiny keratoderma: Case series and review. Int J Dermatol 2017;56:915-9.
2. Arif T, Adil M, Rehman S. Music box spine keratoderma. Indian J Dermatol Venereol Leprol 2018;84:182-3.
3. Hashimoto K, Toi Y, Horton S, Sun TT. Spiny keratoderma: A demonstration of hair keratin and hair type keratinization. J Cutan Pathol 1999;26:25-30.
4. Pirmez R, Sodre CT. Cover image: Music box spine. Br J Dermatol 2016;174:464.
5. Scott-Lang VE, McKay DA. Spiny keratoderma successfully treated with acitretin. Clin Exp Dermatol 2013;38:91-2.