CASE REPORT

Spiny keratoderma exposes underlying renal cell carcinoma

Elliott H. Campbell, BS,a and Charlie Becknell, MDb
Lexington, Kentucky

Key words: neoplasm; renal cell carcinoma; spiny keratoderma.

INTRODUCTION

Spiny keratoderma is a rare condition characterized by numerous, pinpoint, keratotic projections commonly found on the palms and soles reported in the literature to be associated with several diverse underlying conditions, including malignancy. We report an unusual case of spiny keratoderma associated with renal cell carcinoma.

CASE REPORT

A 74-year-old man with a medical history of squamous cell carcinoma of the right temple, tubular adenoma of the colon, hypertension, and coronary artery disease presented to our dermatology clinic for a total body skin examination and concern for several nevi. On examination, the patient was found to have several scattered, clinically benign-appearing nevi, lentigines, and seborrheic keratoses. He was also found to have multiple 1-mm pinpoint, needlelike keratoses isolated to the palms (Figs 1 and 2). A biopsy was not performed in this case because the presentation was consistent with spiny keratoderma.

A complete physical examination did not find additional focal abnormalities. The lesions were asymptomatic, and he was unaware of how long the lesions had been present. The patient denied any constitutional symptoms, and review of systems was negative. He was up to date on all health screening and did not use alcohol or tobacco.

A diagnosis of spiny keratoderma was made, which prompted a referral to the patient’s primary care physician for further screening for arsenic and underlying malignancy. The patient’s primary care team discovered underlying renal cell carcinoma after performing a computed tomography scan of the chest and abdomen in search of an asymptomatic neoplasm.

Three months later, the patient presented to our office 6 weeks after left robotic partial nephrectomy for removal of renal cell carcinoma. No treatment had been provided for the spiny keratoderma; however, after removal of the neoplasm, the condition began to resolve and the lesions had mostly disappeared. The patient has since been followed up in our clinic and has done well with no recurrence of malignancy or spiny keratoderma.

DISCUSSION

Spiny keratoderma, a term coined in an article in 1992, was formerly known in the medical literature under several names including porokeratosis palmaris et plantaris, punctate porokeratotic keratoderma, palmoplantar filiform hyperkeratosis, and music box spine dermatoses.1 This rare condition is characterized by punctate, keratotic, pinpoint projections commonly found on the palms and soles. Spiny keratoderma has been histologically characterized as focal columns of orthokeratotic and occasionally parakeratotic hyperkeratosis.2

Arsenical keratosis, although generally larger and not pinpoint, also may present with punctate keratosis found on the palms and soles that may resemble those of spiny keratoderma. However, one study found that 85% of arsenic exposures with associated cutaneous manifestations had hyperpigmentation.3 Therefore, it would be prudent to rule out arsenic exposure when presented with punctate lesions on the palms and soles.

The condition has been associated with underlying malignancies and other conditions. According to a case review series in 2017, a total of 37 cases have
been reported in the literature. Of these cases, 10 were associated with underlying malignancy and 6 transmitted in an autosomal dominant fashion. Only one of the familial cases of spiny keratoderma reported in the literature was associated with an underlying neoplasm (esophageal cancer).

Spiny keratoderma has been associated with Darier disease, pulmonary tuberculosis, lymphoproliferative disorders, and chronic lymphocytic leukemia. It was previously described in association with other renal abnormalities including autosomal dominant polycystic kidney disease. To our knowledge, it has never been reported in the literature to be associated with renal cell carcinoma; however, it has been associated with several solid tumors including esophageal cancer, squamous cell carcinoma of the nose, nodular malignant melanoma, colonic adenocarcinoma, pulmonary squamous cell carcinoma, and pulmonary adenocarcinoma.

Previous literature reporting the association of spiny keratoderma with malignancy prompted a search for underlying associated conditions. Regardless of whether there is a true association among these different entities, this skin condition once again facilitated the discovery of an otherwise asymptomatic neoplasm. This case emphasizes the importance of exploration for an underlying condition when spiny keratoderma is diagnosed.

REFERENCES
1. Osman Y, Daly T, Don PC. Spiny keratoderma of the palms and soles. J Am Acad Dermatol. 1992;26:879-881.
2. Caccetta TP, Dessauvagie B, Micalum D, Kumarasinghe SP. Multiple minute digitate hyperkeratosis: a proposed algorithm for the digitate keratoses. J Am Acad Dermatol. 2012;67: e49-e55.
3. Tay CH. Cutaneous manifestations of arsenic poisoning due to certain Chinese herbal medicine. Australas J Dermatol. 1974; 15:121-131.
4. Chee SN, Ge L, Agar N, Lowe P. Spiny keratoderma: case series and review. Int J Dermatol. 2017;56:915-919.
5. Handa Y, Sakakibara A, Araki M, Yamanaka N. Spiny keratoderma of the palms and soles - report of two cases. Eur J Dermatol. 2000;10:542-545.
6. Salmon-Erh V, Grosieux C, Derancourt C, Durlach A, Kalis B, Bernard P. Palmoplantar filiform hyperkeratosis with Darier’s disease: association or coincidence? Eur J Dermatol 1998;8: 519-520.
7. Giménez-Arnau A, Camarasa JG. Palmar filiform or spiny hyperkeratosis associated with pulmonary tuberculosis. J Eur Acad Dermatol Venereol. 1994;3:400-406.
8. Bernal AI, González A, Aragoneses H, Martínez G, García M. A patient with spiny keratoderma of the palms and a lymphoproliferative syndrome: an unrelated paraneoplastic condition? Dermatology 2000;201:378-380.
9. Bordel-Gomez MT. Palmoplantar spiny keratoderma associated with chronic lymphoid leukaemia. J Eur Acad Dermatol Venereol. 2008;22:1507-1508.
10. Anderson D, Cohen DE, Lee HS, Thellmann C. Spiny keratoderma in association with autosomal dominant polycystic kidney disease with liver cysts. J Am Acad Dermatol. 1996;34: 935-936.

Fig 1. Spiny keratoderma. A 1-mm pinpoint keratoses found on the patient’s palms on initial presentation.

Fig 2. Spiny keratoderma. Image depicts the raised nature of the 1-mm punctate keratoses.