Angiokeratomas are benign skin lesions that can resemble melanomas or verrucae. Although morbidity from these lesions is rare, treatment for angiokeratomas typically consists of simple surgical excision. We aim to describe a case of a painful angiokeratoma that presented with the appearance of melanoma. (J Am Podiatr Med Assoc 103(3): 241-242, 2013)

Angiokeratomas have been described in the literature since 1889 when Mibelli described what is currently known as angiokeratoma Mibelli-type on the fingers and toes. It can, however, occur anywhere on the dorsa of feet and hands and, atypically, on the elbows, knees, shoulder, and ear lobes.1-2

Angiokeratomas are a group of vascular ectasias that involve the papillary dermis. These can produce papillomatosis, acanthosis, and hyperkeratosis of the epidermis. These secondary epidermal reactions are possibly to prevent further dilation of vessels and halt any increase in the size of the ectasias.1-3 The skin reaction lends a verrucous appearance, which may lead to being treated with curettage, and lead to ulceration and bleeding as described by Dunnihoo et al.4 The mechanism of development is not entirely clear, but angiokeratoma of Mibelli has been associated with chilblains.2

There are currently eight types of angiokeratomas that have been described. They tend to be 2 to 10 mm in diameter and vary in color from red to blue to black, with a predisposition to darken in color with time. They occasionally bleed and sometimes cause pain, but are usually asymptomatic. When widespread, these lesions are usually associated with a genetic system disorder, such as Fabry’s disease.1 Single or localized lesions are usually not associated with these imbalances. These lesions are infrequently reported in the literature likely because of their innocuous nature. Their main significance is their tendency to resemble melanomas or verrucae.3

Treatment for angiokeratomas may include cryotherapy, laser therapy, electrocautery, and surgical excision.5 Morbidity from these lesions is rare and often comes from inappropriate treatment or misdiagnosis. We aim to describe a case of a painful angiokeratoma that presented with the appearance of melanoma.

Case Report

An 84-year-old male presented to the Southern Arizona VA Health Care Center podiatry clinic, Tucson, AZ, for evaluation and treatment of a painful lesion on the plantar aspect of his right heel. The lesion had been present for approximately 8 months and had slightly increased in size and was causing pain. Pain was elicited primarily with weightbearing, but recently he had been experiencing a burning sensation that was fairly constant. He had been treated at another facility with the diagnosis of plantar verruca for about 6 months with liquid nitrogen, salicylic acid, liquefied phenol, and curettage. On initial presentation, this gentleman had a 0.8-cm purple to black pigmented lesion that was slightly elevated, had irregular borders, and was centrally ulcerated, as can be seen in Figure 1.

On initial examination, a form of melanoma was suspected and a punch biopsy of the lesion was performed. Initial pathology results described the lesion as a hemangioma with no representation of malignant melanoma. The patient was scheduled for surgery to remove the lesion in total. Two semi-elliptical incisions were made in a 3:1 ratio to ellipse the lesion. The lesion penetrated the dermis but did not invade the plantar fat pad of the foot. The
specimen was tagged with suture and sent to pathology for analysis. Final pathology results described the lesion as an angiokeratoma. Figure 2 demonstrates a 10x magnification of the lesion with the ulceration and hyperkeratosis evident above the dermis. Figure 3 is a 40x magnification and demonstrates the thin-walled capillaries that are diagnostic for this lesion.

Angiokeratomas usually present histologically with thin-walled, dilated blood vessels that expand the papillary dermis and can cause papillomatosis.\textsuperscript{1,6} Rete ridges tend to enfold the dilated vessel. These vessels are occasionally thrombosed, which may explain the blue to black discoloration.\textsuperscript{7} The Angiokeratoma of Mibelli tends to have increased hyperkeratosis compared to other types.\textsuperscript{7}

**Discussion**

Angiokeratomas are groups of benign skin lesions that mimic verruca or melanoma. The bleeding and hyperpigmentation may lead to diagnosis of melanoma. Recognizing angiokeratoma as a possible differential diagnosis for discolored skin lesions is an important part of a podiatric physician's diagnostic repertoire.

**References**