Corns in scleroderma: An underreported entity

Sir,
Systemic sclerosis (SSc) has been associated with a myriad of foot problems ranging from Raynaud’s phenomenon to degenerative changes.[1] However, the occurrence of plantar corns in patients with SSc, as noticed consistently by one of the authors, has remained an unreported entity to the best of our knowledge. Based on this observation, we set out to assess the frequency of corns in scleroderma and the possible pathomechanism behind it.

For this purpose, during a one-year period (March 2011 to February 2012) we studied 18 patients with SSc and 5 patients with mixed connective tissue disease who were diagnosed based on the criteria developed by the American College of Rheumatology and Kasukawa et al., respectively.[2,3] On examination, all the 18 patients with scleroderma and 3 of 5 MCTD patients were found to have corns on the plantar aspect of their feet. All the lesions had a sharp, discrete border with interrupted dermatoglyphics, thus distinguishing them from callosities [Figure 1]. Also, the lesions did not show any bleeding points following paring, thus negating the possibility of plantar warts. All the patients complained of tenderness, which increased on applying vertical pressure.

The total number of lesions encountered by us summed up to 60; 20 on the heel area, 24 present lateral to the head of 1st metatarsal, and 15 present between the heads of 4th and 5th metatarsal [Figure 2]. Fifteen patients showed involvement of bilateral feet albeit not necessarily symmetrical. Incidentally, all the 18 patients of SSc had digital pitted scars [Figure 3].

Corn develops because of an interplay between increase in the pressure on bony prominences and accumulation of the horny layer of the epithelium, thus generating a vicious cycle, which ultimately culminates in the formation of a keratin plug pressing into the dermis.[4] People with SSc also suffer from bone erosions and subcutaneous fat atrophy, consequently increasing plantar foot pressure.

Adding to this melee is the prevalent tradition of walking barefoot indoors in this part of the subcontinent, which can increase the wear and tear effect. Furthermore, studies on plantar pressure in scleroderma have demonstrated a particularly high peak pressure in the MTP joint, which substantiates our finding of increased occurrence of corns in the forefoot area.[5] In this study, the all-female population...
were housewives and had to perform most of their chores standing. This can lead to a further increase in the peak pressure in the MTP joints.

The presence of corns can be considered as a marker for ulceration as the mechanical forces that cause corns and Calluses can also rupture portions of subcutaneous vascular plexus. In healthy patients this may be of minimal significance, but in patients with connective tissue disease it may herald extensive skin ulceration or vasculitis. Thus, corns can be regarded as a sign of the onslaught brought about by the repetitive friction and shear. When the enormity of systemic involvement in SSc is considered, the association of corn may seem trivial. However, knowledge about its occurrence and prompt redressing will go a long way in alleviating the burden of pain and in avoiding more sinister complications such as ulceration.

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Conflicts of interest
There are no conflicts of interest.

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