# A Case of Cutaneous Horn Arising from Dermatofibroma

Young-Ju Seo, Jung-Ho Ryu, Kwang-Ho Kim, Kwang-Joong Kim

*Department of Dermatology, College of Medicine, Hallym University, Anyang, Korea*

**Cutaneous horn is a clinical diagnosis based upon the presence of a large protuberant mass of keratin. We report a case of cutaneous horn arising from dermatofibroma in a 31-year old woman. A silver whitish colored cornical hyperkeratotic protruding lesion (1.0 × 0.7 cm size) from the red brown colored nodule was observed. Histopathologic findings showed characteristic findings of dermatofibroma and cutaneous horn. The lesion was removed by surgical excision. (Ann Dermatol 16(2) 76~78, 2004)**

*Key Words:* Cutaneous horn, Dermatofibroma

Cutaneous horn is first reported by Lafrancus1 and it is so named for it resembles an animal horn. Cutaneous horn is the clinical term for a circumscribed, conical, markedly hyperkeratotic projection from the skin surface in which the height of the lesion is at least one half of its largest diameter.

It may be produced by a number of underlying primary lesions of benign, premalignant and malignant nature and frequently be associated with actinic keratosis, verruca vulgaris, seborrheic keratosis and squamous cell carcinoma.

We report a case of cutaneous horn arising from dermatofibroma in a 31-year old woman.

## CASE REPORT

A 31-year old previously healthy woman visited us with a chief complaint of the conical shaped mass in the right foot. The conical shaped mass presented one year ago and the size of mass was increasing. There was no symptom of pruritus, pain and tenderness.

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**Reprint request to:** Young-Ju Seo, M.D., Department of Dermatology, College of Medicine, Hallym University, 896 Pyungchon-dong, Dongan-gu, Anyang 431-070, Korea.
Tel. 82-031-380-3765, Fax: 82-031-386-3761
E-mail. kredos@snu.md

The physical examination showed a dome shaped reddish brown colored nodule 1.0 cm in diameter with a 0.7×0.7 cm sized silvery white colored conical papule on the right dorsum of foot (Fig. 1. A, B). Any other findings without skin manifestation were not detected.

The skin biopsy on the lesion site showed conical shaped marked hyperkeratosis, parakeratosis and acanthosis in the epidermis and the dermis consisted of spindle cells arranged in storiform patterns (Fig. 2. A, B). In the immunohistochemical staining the spindle cells showed positive reaction to vimentin (Fig. 3) and negative reaction to CD34 and S-100 (Fig. 4).

As a result of clinical and pathologic finding, we made a diagnosis of cutaneous horn arising from dermatofibroma. The patient was treated with surgical excision and is doing well without recurrence.

## DISCUSSION

Cutaneous horn is a clinical description of a protrusion of conical-shaped keratinized material from the skin surface. It is skin-colored, horny excrescences, 2 to 60 mm long, sometimes divided into several antlerlike projections[2]. Cutaneous horn is not a pathological diagnosis and a variety of primary underlying benign, premalignant or malignant lesions can cause it. Thus the important issue when dealing with cutaneous horn is accurate determi-

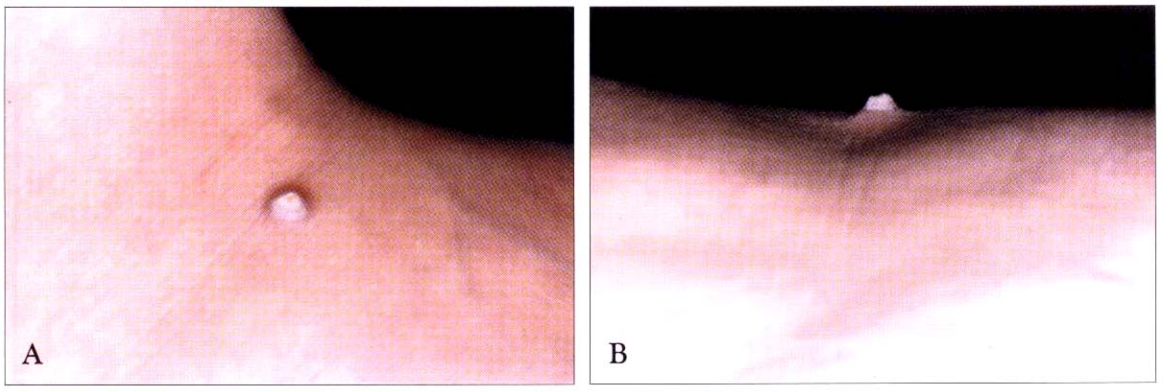


Fig. 1. A, B. A dome shaped reddish brown colored nodule 1.0 cm in diameter with a 0.7×0.7 cm sized silvery white colored conical papule on the right dorsum of foot.

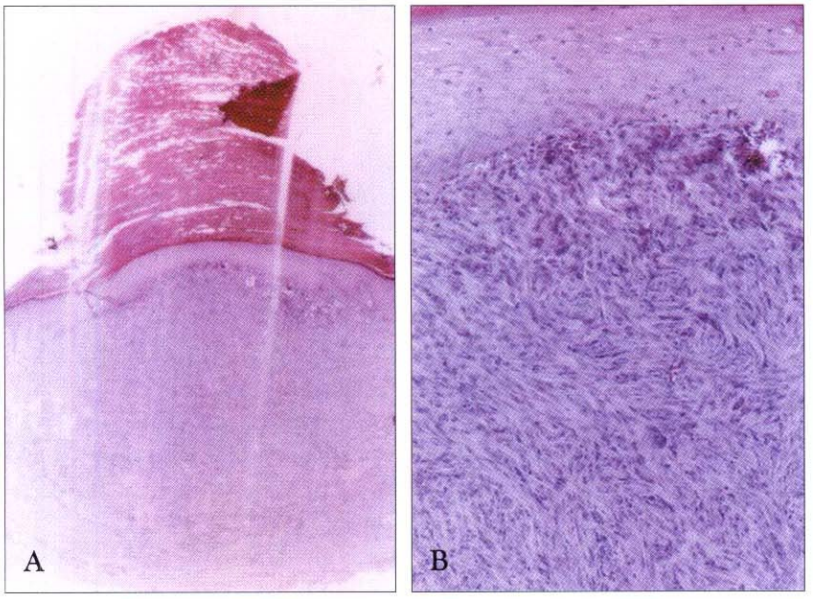


Fig. 2. A. The specimen shows conical shaped marked hyperkeratosis in the epidermis and hypercellularity in the dermis (haematoxylin and eosin. original magnification × 20). B. In the epidermis acanthosis and parakeratosis are seen and the dermis consists of spindle cells arranged in storiform patterns (haematoxylin and eosin. original magnification × 200)

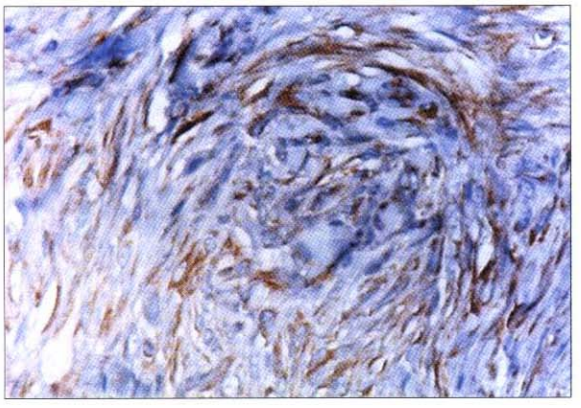

Fig. 3. Immunohistochemical staining shows positive reaction to vimentin (original magnification × 400).

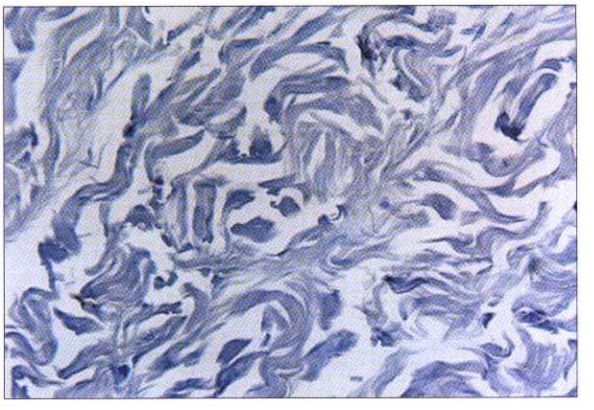

Fig. 4. Immunohistochemical staining shows negative reaction to CD-34 (original magnification × 400).

nation of the nature of the lesions at its base. Some of patients have subjective symptom including pruritus, pain or tenderness. It is more common in males than females and has increasing tendency with age[1,3]. So, the occurrence in children is very rare. It occurs mostly on exposed areas such as face, ear and dorsum of hand singly and uncommonly occurs on the palm, sole, abdomen, back, clitoris or penis[3]. Benign lesions such as seborrheic keratosis, verruca vulgaris or keratoacanthoma, pre-malignant lesions such as actinic keratosis and malignant lesions such as squamous cell carcinoma or basal cell carcinoma can be associated[4,5]. Among them, actinic keratosis is the most common cause of cutaneous horn[6].

The pathogenesis of cutaneous horn is still unknown. But, old age, abundant blood vessels in the base of lesion and continuous stimulus may affect the formation of cutaneous horn[5,7].

The prognosis is variable by underlying lesion and the treatment of choice is surgical excision.

Dermatofibroma is a relatively common benign tumor which occurs in the skin as firm, indolent, single or multiple nodules, most commonly on the lower extremities in middle aged women[8,9]. Most lesions are a few millimeters in diameter, red-brownish, or yellowish, and fixed papules or nodules. According to the pathological finding, dermatofibroma is divided into 2 subtypes: fibrous dermatofibroma, which was shown in our case, composed of fibroblasts and collagens, and cellular dermatofibroma with histiocytic cells containing lipid or hemosiderin[8,9]. A prominent feature of dermatofibroma is that epidermal change is variable. The epidermis is mostly hyperplastic, with hyperkeratosis, acanthosis, hyperpigmentation of the basal layer and elongation of rete ridges, separated by a Grenz zone from the spindle cell tumor in the dermis, which is composed of fibroblast-like spindle cells, histiocytes, and blood vessels in varying portions.[8] In our case, however, the Grenz zone is not prominent. In addition, the histologic finding of seborrheic keratosis, keratoacanthosis, acanthosis nigricans like change, epidermal atrophy, pseudoepitheliomatous hyperplasia, early basalioma-like proliferation, focal acantholytic dyskeratosis and hair follicle like basal cell proliferation can be seen[9,10].

The pathogenesis of dermatofibroma is unknown. Whether the variable epidermal change with dermatofibroma represents a reactive hyperplasia or a true neoplasm continues to be debated[11,12]. In our case, we thought that epidermal change arising from dermatofibroma may affect the generation of cutaneous horn. And guessing from the lesion site, continuous mechanical stimulus may also affect the production of cutaneous horn. Hereafter, more case studies would be helpful for determining the correlation between dermatofibroma and cutaneous horn.

To our knowledge, this is the first report in the literature, so we report a very rare case of cutaneous horn arising from dermatofibroma.

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