Fibromatosis over the dorsa of both feet: An unusual presentation

Y. Hari Kishan Kumar, C. Sujatha[1], Sushmitha Jayaprasad[1]

Departments of Dermatology, Raja Rajeswari Medical College and Hospital, Kambipura, [1]MVJ Medical College and Research Hospital, Hoskote, Bengaluru, Karnataka, India

ABSTRACT

Fibromatosis is benign fibrous tissue condition intermediate between benign fibroma and metastasizing fibrosarcoma. The lesion tends to infiltrate and recur when removed, but do not metastasize. The lesion may be single or multiple, and the likelihood of recurrence after surgical removal varies with location of the lesion and age. A 40-year-old female presented with multiple raised lesions over both feet since 4 years, they were multiple well-defined firm nodules coalescing to form lobulated plaques distributed in a symmetrical pattern over the dorsum of both feet. Histopathology of skin showed epidermis with hyperkeratosis, acanthosis, mild parakeratosis, and prominent granular layer. Superficial dermis was unremarkable and deep dermis showed thick bundles of irregular collagen and fibroblastic proliferation, suggestive of fibromatosis. This case is being reported for its unusual presentation of fibromatosis over the dorsum of both feet.

Key words: Dorsum of feet, fibromatosis, histopathology

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Address for correspondence:
Dr. Y. Hari Kishan Kumar, Skin Care Clinic, 70, Padma Nivasa, 3rd Cross MG Extension, HV Halli, Raja Rajeswari Nagar, Bengaluru - 560 098, Karnataka, India.
E-mail: drkishanyadalla@rediffmail.com

INTRODUCTION

The term fibromatosis refers to a group of benign soft tissue tumors (fibromas),[1] which have certain characteristics in common, including absence of cytologic and clinical features of malignancy, a histology consistent with proliferation of well-differentiated fibroblasts, an infiltrative growth pattern, and aggressive clinical behavior with frequent local recurrence. Palmar fibromatosis is more common than plantar fibromatosis.[1,2] Herein we report this unusual presentation of benign fibromatosis over the dorsum of both feet.

CASE REPORT

A 40-year-old female patient presented with multiple raised growths over both feet since four years. The growths started over soles and progressed to involve the dorsum of both feet. It was not associated with pain or itching. There was no history of trauma or application of any irritant prior to onset. There was no history of diabetes, smoking or alcohol addiction. Contractures, bony deformities and keloids were absent. On examination, symmetrical, well-defined, firm nodules coalescing to form lobulated plaques were noted over the dorsum of both feet extending from base of the 2nd, 3rd, 4th, and 5th toes to the mid-foot [Figures 1 and 2]. The skin over swelling was not pinchable. Nails were normal. Clinically, differential diagnoses of callosity, fibromatosis, and keloids were considered. Routine blood and biochemical investigations were within normal limits. HIV and HBsAg were negative. Radiographs of both feet showed no bony deformity and ultrasound of both feet showed no significant soft tissue thickening. An elliptical biopsy of lesion taken for histopathology showed epidermis with hyperkeratosis, acanthosis, mild parakeratosis and prominent granular layer. Superficial dermis was unremarkable and deep dermis showed fibroblastic proliferation with variable vascularity and lack of inflammatory infiltrate, and thick bundles of irregular collagen characteristic of fibromatosis [Figures 3 and 4]. With these clinical and histopathological features, a diagnosis of fibromatosis was made. The patient was advised topical keratolytics along with intralesional steroids for 2 months with minimal response. The patient was counseled about the benign nature of the disease and measures for lifestyle modification and proper footwear.

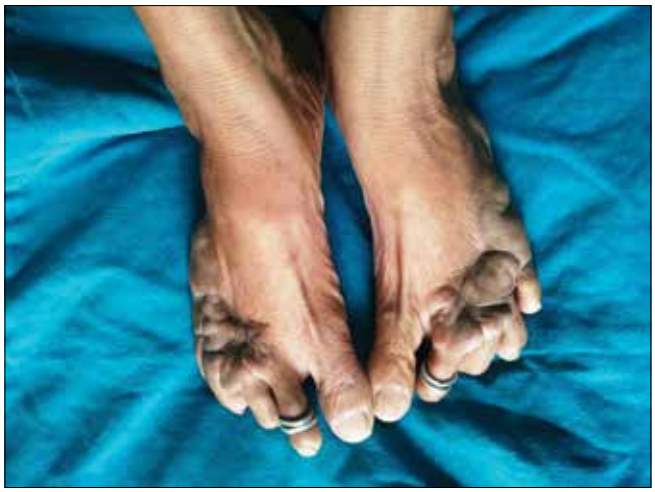

Figure 1: Multiple well-defined firm nodules coalescing to form lobulated plaques distributed in a symmetrical pattern over dorsum of both feet, extending from base of the 2nd, 3rd, 4th, and 5th toes to the the mid-foot

Figure 2: Close-up view of the lesion showing diffuse lobulated plaque over the dorsum of left foot

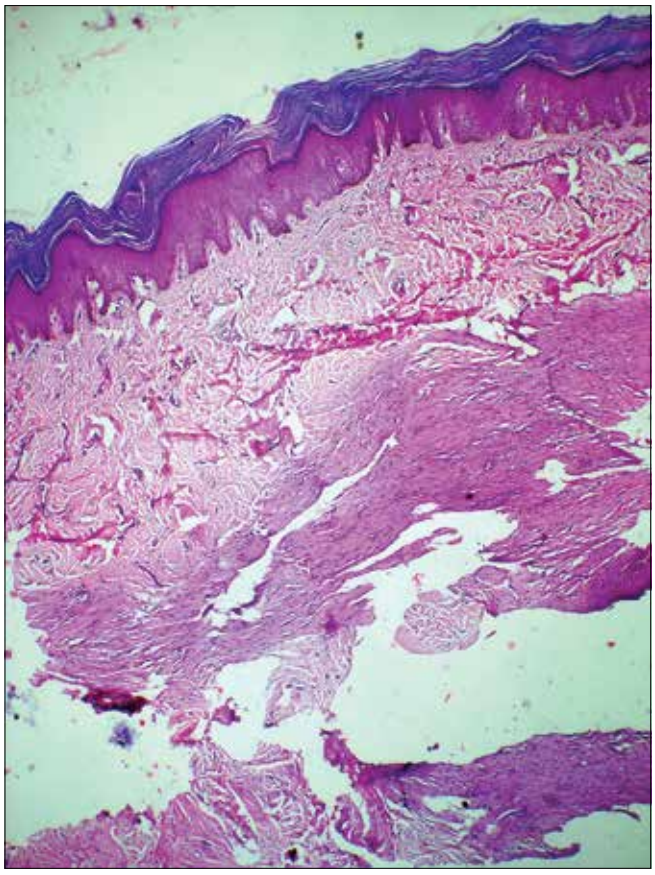

Figure 3: Epidermis showing hyperkeratosis and acanthosis with deep dermis showing fibroblastic proliferation with thick bundles of irregular collagen (Hematoxylin and eosin x4)

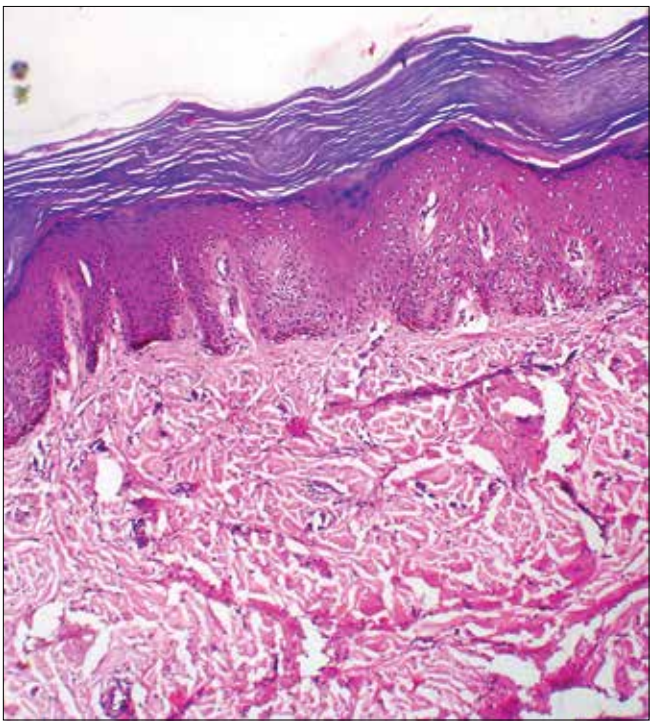

Figure 4: Epidermis showing hyperkeratosis, acanthosis, mild parakeratosis, and a prominent granular layer. Superficial dermis was unremarkable and deep dermis showed fibroblastic proliferation with variable vascularity and lack of an inflammatory infiltrate, with thick bundles of irregular collagen (Hematoxylin and eosin x40)

DISCUSSION

The musculoskeletal fibromatosis represent a wide range of fibroblastic to myofibroblastic proliferations that are grouped together because of their similar pathologic appearances. The clinical behavior of these tumors is intermediate between that of benign and malignant fibrous lesions; they commonly manifest infiltrative growth, resulting in frequent local recurrence, but lacking metastatic potential. The World Health Organization Committee for classification of soft tissue tumors in 2002[1] categorized these lesions as superficial or deep based on their anatomic location. Superficial fibromatosis (palmar, plantar, penile, and knuckle pads) and deep fibromatosis (nonmetastasizing fibrosarcoma, and

desmoids tumor), which are rapidly growing tumors involving the muscular structures or aponeuroses. Clinically, it may present as solitary or multiple lesions affecting one or many sites; the prevalence of palmoplantar involvement may vary 0-28 percent of cases.[2,3]

The superficial fibromatosis, whether they occur in adults (palmar and plantar) or children (calcifying aponeurotic fibroma, lipofibromatosis, and inclusion body fibromatosis), are typically small lesions that grow slowly. Diagnosis of these superficial lesions is often suggested by their clinical appearances and location. The deep fibromatosis in both adults (desmoid type and abdominal wall) and children (fibromatosis colli and myofibroma and myofibromatosis) are usually larger and often enlarge more rapidly. The diagnosis of deep fibromatosis may be suggested by their clinical characteristics, particularly anatomic location and patient age: fibromatosis colli that typically involves the lower neck and sternocleidomastoid muscle in a young child; abdominal wall fibromatosis that manifests as a mass involving the rectus abdominus muscle and is often related to pregnancy; or myofibromatosis that occurs as multicentric disease in a young child; palmar fibromatosis, a fibromatous hyperplasia of the palmar aponeurosis characterized by nodular thickening of the fascia associated with flexion contractures of one or more digits; plantar fibromatosis comprising single or multiple painful nodules over the medial half of mid-foot with a tendency to ulcerate that may be locally invasive and can recur; penile fibromatosis, characterized by one or more dense fibrous plaques on the penile shaft that occur as an isolated abnormality or as part of polyfibromatosis; knuckle pads, characterized by circumscribed thickening overlying the proximal interphalangeal joint; desmoid tumors - histologically benign but locally aggressive fibrous neoplasms originating from the musculoaponeurotic structures with often nonspecific findings.[1,4]

Diagnosis relies on histopathologic findings characterised by multinodular cellular proliferations of uniform, plump, spindle shaped fibroblastic cells within a collagenous stroma. Mitotic figures may be present but are usually infrequent. Longstanding lesions are less cellular and contain increased amounts of dense collagen, suggestive of fibromatosis. Cross-sectional imaging (ultrasonography, computed tomography, or magnetic resonance imaging [MRI]) reveals lesion location, extent, and involvement of adjacent structures and thus is useful for tumor staging and evaluation of local recurrences. Additional MRI features that are related to underlying pathologic characteristics provide increased specificity for the diagnosis of musculoskeletal fibromatosis.[5]

Treatment of musculoskeletal fibromatosis may range from conservative management to surgical resection and is influenced by the specific diagnosis and extent of the lesion determined at imaging evaluation. Local recurrence is common after surgical resection, owing to the infiltrative growth seen pathologically in these lesions.

Wide excision of fascia is the treatment of choice for solitary painful lesions or lesions causing flexion contractures. Recurrences are common in aggressive fibromatosis, but not so in superficial benign fibromatosis.[1-4] In a case series of 14 patients with plantar fibromatosis, it was noted that symptoms improve with time with conservative management and intralesional corticosteroids may not always cause subsidence of symptoms.[6] Among the nonsurgical treatments, radiation therapy, vitamin E, local injection of calcium channel blockers, interferon, corticosteroids[7] or collagenase, and colchicine[8] have been used successfully only in isolated case reports. In our case, we used intralesional injection of triamcinolone in escalating dose of 10 and 40 mg/ml every three weeks along with topical salicylic acid 12% and urea for local application twice daily that showed minimal response. This case report presents the benign nature of the condition, its relative resistance to treatment and an uncommon symmetrical presentation of fibromatosis over the dorsum of both feet.

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