Isolated Dupuytren's disease of the interphalangeal joints: a case report

İsolated Dupuytren hastalığı: Olgu sunumu

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Introduction

Dupuytren's disease is a fibroproliferative disorder usually isolated to the palm and digits and is characterized by the development of new tissue in the form of nodules and cords. Usually, the cords progressively shorten, leading to joint and soft tissue contractures. Dupuytren's disease is inherited as an autosomal dominant trait. Viking heritage seems to be part of the original gene pool and becomes more rare as one travels farther south in Europe.

Only a few cases of isolated digital Dupuytren's disease have been reported in the literature. Within these single DIP involvement is the most seen form. The case is presented here of a patient with Dupuytren's disease confined to the interphalangeal joints of the little finger.

Case Report

A 51-year-old male presented with a painless deformity of his right little finger. On presentation there was a 3-year history. The patient was of Caucasian ethnicity with no known family history of Dupuytren's disease. The patient was a smoker, did not drink alcohol and was not diabetic. There was no history of trauma. On physical examination, flexion contracture of interphalangeal joints was measured 75 degrees and 30 degrees at the DIP and PIP joints, respectively. Active flexion of these joints was normal. Subcutaneous cord could be palpated at the volar and radial aspect of the DIP and PIP joints, but there was no cord in the palm or MP joint (Fig. 1). No vascular or neurological damage was observed.

Surgery was performed under axillary brachial plexus block. A midlateral skin incision was made between the MP and DIP joints. The neurovascular bundle was explored and saved then the cord was excised and sent for pathological examination (Fig. 2). After excision of the cord, full passive extension of the interphalangeal joints was achieved. After the excision multiple Z-plasty was made for the contracture.

Abstract

Dupuytren's disease is a fibroproliferative disorder usually isolated to the palm and digits. The disease limited to the DIP and PIP joint is a rare condition. Here we describe a 51-year-old patient with Dupuytren's disease confined to the interphalangeal joints of the little finger.

Key words: Distal interphalangeal joint, Dupuytren's disease, proximal interphalangeal joint.
After the tourniquet was exsanguinated, the flaps were set by the corner sutures without tension and the skin was easily closed (Fig. 3). An aluminium dorsal splint was applied and was removed 3 days postoperatively. Active and passive exercises were then given, with the aluminium splint being worn during the night to control morning contractures. There were no postoperative complications. The sutures were removed in the 3rd week and the splint was discontinued.

Histological evaluation was performed to confirm Dupuytren contracture diagnosis. Under light microscopy examination, the dense fibrous connective tissues were seen to have proliferated and there were many fibroblasts in this region (Fig. 4).
Three months after surgery the patient showed a good clinical outcome (Fig. 5). There was no disability in daily activities or symptoms of nerve disturbance. The patient returned to work 3 weeks postoperatively. No recurrence or advancement to other regions occurred.

Discussion

The pathophysiology of the Dupuytren’s disease is not fully known. The risk factors include male gender, diabetes mellitus, treatment with barbiturics for epilepsy, smoking and traumatic injury.[1] The two risk factors in the case presented here were smoking and male gender.

The classic pathogenesis of Dupuytren’s disease is the contracture which primarily affects the palmar fascia then extends to the digits, with the metacarpophalangeal joint being usually involved first and then the proximal interphalangeal joint.[1-5] In this case, the finger was affected without any involvement of the cords in the palm or MP joint.

Nearly all of the cases reported in the literature have been about single DIP involvement.[6-8] Only one case with both DIP and PIP joint involvement has been reported. In 2009 Saleh et al.[9] reported a 79-year-old male with isolated little finger interphalangeal joint involvement. Both the cords on radial and ulnar sides were excised. The difference in the current case is that only one radial lateral cord was found and excised.

During the surgical exploration, especially for fingers with severe deformity, dissection should start from the normal proximal part towards the lesion and any tissue should be excised before the digital nerves identified on both sides[10] in order to avoid neurovascular damage. Although postoperative finger ischaemia is not infrequent, Saleh et al. reported finger ischaemia which resulted in delay of wound healing and cold intolerance. They attributed this complication to full correction of the contracture.[9] In the current case, full correction of the finger contracture was possible postoperatively with no neurovascular complications. We think that the skin incision is the one of the key points and multiple Z-plasty allowed skin closure without any tension and prevented any adverse vascular events.

The treatment of isolated interphalangeal Dupuytren’s disease is no different from the classical type. A soft tumor mass on the interphalangeal joints, especially on the little finger, may be mistaken for Dupuytren’s disease[8] and care should be taken to fully excise the diseased cords to prevent any recurrence.

Conflicts of Interest: No conflicts declared.

References
1. Saar JS, Grothaus PC. Dupuytren’s disease: an overview. Plast Reconstr Surg 2000;106:125-134.
2. Luck JV. Dupuytren’s contracture: a new concept of the pathogenesis correlated with surgical management. J Bone Joint Surg Am 1959;41:635-64.
3. McFarlane RM. Patterns of the diseased fascia in the fingers in Dupuytren’s contracture. Displacement of the neurovascular bundle. Plast Reconstr Surg 1974;54:31-44.
4. Hueston JT, Seyer AE. Some medicolegal aspects of Dupuytren’s contracture. Hand Clin 1991;7:617-34.
5. Shaw RB, Chong AKS, Zhang A, Hentz VR, Chang J. Dupuytren’s disease: history, diagnosis and treatment. Plast Reconstr Surg 2007;120:44e-54e.
6. Bellonias EC, Nancarrow JD. Two unusual cases of distal interphalangeal joint Dupuytren’s contracture. Br J Plast Surg 1991;44:602-3.
7. Rao K, Shariff Z, Howcroft AJ. Dupuytren’s contracture of the distal interphalangeal joint: a rare presentation. J Hand Surg 2006;31:694-5.
8. Takase K. Dupuytren’s contracture limited to distal interphalangeal joint: a case report. Joint Bone Spine 2010;77:470-1.
9. Saleh WR, Horii E, Hirata H. Dupuytren’s disease confined to the interphalangeal joints: a case report. Hand Surg 2009;14:69-71.
10. Benson LS, Williams CS, Kahle M. Dupuytren’s contracture. J Am Acad Orthop Surg 1998;6:24-35.