Painful Nodules and Cords in Dupuytren Disease

A. von Campe, MD, K. Mende, MD, H. Omaren, MD, C. Meuli-Simmen, MD

Purpose The etiology of Dupuytren disease is unclear. Pain is seldom described in the literature. Patients are more often disturbed by impaired extension of the fingers. We recently treated a series of patients who had had painful nodules for more than 1 year, and we therefore decided to investigate them for a possible anatomical correlate.

Methods Biopsies were taken during surgery from patients with Dupuytren disease and stained to enable detection of neuronal tissue.

Results We treated 17 fingers in 10 patients. Intraoperatively, 10 showed tiny nerve branches passing into or crossing the fibrous bands or nodules. Of 13 biopsies, 6 showed nerve fibers embedded in fibrous tissue, 3 showed perineural or intraneural fibrosis or both, and 3 showed true neuromas. Enlarged Pacinian corpuscles were isolated from 1 sample. All patients were pain free after surgery.

Conclusions Although Dupuytren disease is generally considered painless, we treated a series of early stage patients with painful disease. Intraoperative inspection and histological examination of tissue samples showed that nerve tissue was involved in all cases. The pain might have been due to local nerve compression by the fibromatosis or the Dupuytren disease itself. We, therefore, suggest that the indication for surgery in Dupuytren disease be extended to painful nodules for more than 1 year, even in the early stages of the disease in the absence of functional deficits, with assessment of tissue samples for histological changes in nerves.

Type of study/level of evidence Therapeutic II.

Key words Dupuytren disease, nodules, pain, surgery.

PALMAR FASCIITIS AND CONTRACTURE was described by Plater[1] in Switzerland in 1614. Almost 200 years later, Dupuytren[2] published his first case of palmar contracture in 1831. More than 150 years later, the etiology of this disease is still unclear. A dysfunction of the fibroblasts is presumed, especially within the nodules.[3] In the early phase of the disease, patients present with nodules and Hueston pits in the palm of the hand. Later it can extend to a cord in the finger, and those affected contract in flexion, most often the ring and little finger. Patients usually find the impaired extensibility of the fingers disturbing. Other symptoms have rarely been reported, and especially pain has been described as rare.[4]

During our everyday clinical activity, we have observed a number of patients with painful nodules or cords in the different stages of the disease. The aim of this study was to find a possible anatomical cause for these painful nodules and cords.

From Kantonsspital Aarau, Department of Hand Reconstructive and Plastic Surgery, Tellstrasse, Aarau, Switzerland; and Kantonsspital Aarau, Department of Pathology, Tellstrasse, Aarau, Switzerland.

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Corresponding author: Arndt von Campe, MD, Kantonsspital Aarau, Department of Hand Reconstructive and Plastic Surgery, Tellstrasse, Aarau 5001, Switzerland; e-mail: avoncampe@hotmail.com.

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MATERIALS AND METHODS

Between May 2008 and August 2009, 10 patients had surgery for painful Dupuytren disease in our department (Table 1). The mean age of the 4 women and 6 men was 63 years (range, 50–78 y).

TABLE 1. Demographics

No.	Sex	Age (y)	Duration of Pain	Preoperative Pain Intensity (Visual Analog Scale)	Preoperative Clinical Findings	Surgery Indication	Intraoperative Findings—Surgical Procedure	Complications	Biopsy Findings	Postoperative Pain Intensity (Visual Analog Scale)
1	F	78	> 1 y	4	Cords from palm to PIP, ring and little fingers (stage 2). Nodule, palm, middle finger	Pain	Nerve fiber in cord palm, little finger. Cords and nodule removed		Nerve fibers in fibromatosis	0
2	F	70	> 1 y	7	Cord from palm to MCP, ring finger (stage 2)	Pain	Nerve fiber in cord palm, ring finger. Cord removed		Nerve fibers with perineural and intraneural fibrosis; neuroma	0
3	M	64	3 y	4	Cord from palm to PIP, ring finger (stage 3)	Pain	Nerve fiber in cord palm, ring finger. Cord removed		Nerve fibers in fibrous tissue	0
4	F	54	1 y	6	Nodule, palm, ring finger (stage 1); no trigger	Pain	Three nerve fibers in nodule, palm, ring finger. Broad nodule removed, ring finger, with release of stenosis of ring band A1		Nerve fibers in fibromatosis with perineural fibrosis	0
5	M	74	3 y	4	Cord from palm to DIP, little finger; nodules, palm, ring and little fingers (stage 2)	Pain and restricted extension	Nerve fiber cord, little finger; tenosynovialitis palm, middle finger. Nodules and cords removed; tenosynovectomy, palm, middle finger		Nerve fibers in fibrous tissue; Pacini bodies	0
6	M	50	> 1 y	6	Nodules, palm, thumb and ring finger (stage 1)	Pain	Nerve fiber cord, thumb and ring finger. Nodules removed, with release of stenosis ring band A1, ring finger		Neuroma in nodule, thumb; Meissner corpuscle in nodules, thumb and ring fingers	0
7	M	68	2 y	3	Cords from palm to PIP, ring and little fingers (stage 3)	Pain and restricted extension	Nerve fibers in cord. Cord removed			0
8	M	61	3 y	3	Cord from palm to DIP, little finger (stage 4)	Pain and restricted extension	Nerve fiber in cord. Cord removed		Neuroma in cord	0
9	F	51	4 y	7	Cord from palm to PIP, ring and little fingers (stage 3)	Pain and restricted extension	Nerve fiber in cord. Cord removed; partial tenosynovectomy	CRPS	Nerve fibers in fibrous tissue	0
10	M	59	> 1 y	5	Cord from palm to PIP, ring finger; nodule, palm, middle finger (stage 3)	Pain and restricted extension	Nerve fibers in nodule. Cord and nodule removed	CRPS	Nerve fibers with intraneural and perineural fibrosis	0

DIP, distal interphalangeal joint; MCP, metacarpophalangeal joint; PIP, proximal interphalangeal joint.