Utility of Routine Pathologic Examination for Fasciectomy for Dupuytren Contracture

Philip E Blazar[1], Brandon Elizabeth Earp[1], David Liu, Phillip Grisdela, Dafang Zhang, George S.M. Dyer[1]
[1]Brigham and Women's Hospital

INTRODUCTION: The objective of this study was to examine the routine pathological examination of surgical specimens obtained during fasciectomy for Dupuytren contracture.

METHODS: A total of 376 consecutive patients who underwent surgical limited fasciectomy Dupuytren with the excised tissue sent for histopathological evaluation were identified. Patients were excluded for miscoded procedures, cases where no tissue was sent for pathological review and excisions of nodules only. Repeat surgeries in the same patient during the study period were excluded. The rates of concordant, discrepant, and discordant diagnoses were reported. Discrepant diagnoses were defined as different clinical diagnosis and pathological diagnosis which did not change clinical management. Discordant diagnoses were defined as different clinical diagnosis and pathological diagnosis which altered the treatment plan. The reference standard for final clinical decision making was the pathologic diagnosis.

RESULTS: The prevalence of concordant diagnoses was 97.1% (365 of 376), discrepant diagnoses was 2.9% (11 of 376), and of discordant diagnoses was zero. Forty-three out of 376 patients underwent previous surgical fasciectomy before the study surgery, and pathological examination was obtained in ten of these patients. All ten patients had concordant diagnoses.

DISCUSSION AND CONCLUSION: Our results suggest that routine pathological examination did not alter the future treatment plan for patients who underwent limited fasciectomy. Discrepant diagnoses were encountered infrequently, and rarely in the setting of revision fasciectomy; discordant diagnoses did not occur. Given the cost associated with pathologic evaluation, this raises the question of whether routine pathological evaluation is necessary for Dupuytren surgery, where the capability of the treating surgeon to accurately make a clinical diagnosis may render confirmatory pathologic assessment redundant.

Table 1. Patient characteristics (n=376)

Variable	n
Sex *[n]*	
Women	123
Men	253
Age, years *[mean; SD]*	69.8; 9.2
Laterality *(n)*	
Left	181
Right	195
Primary digit involvement *[n; %]*	
Thumb	5; 1.3
Index	12; 3.2
Long	41; 10.9
Ring	90; 23.9
Small	228; 60.6
Multiple digit involvement of either hand *[n; %]*	175 (46.5%)
Multiple digits treated *[n; %]*	153 (40.7%)
Average total fixed flexion contracture, degrees* *[mean; SD]*	71.8; 35.4
Primary surgery *[n; %]*	284; 75.5
Revision surgery** *[n; %]*	92; 24.5
Prior surgery	43
Collagenase injection	41
Needle aponeurotomy	5
Radiation therapy	1
Unknown prior treatment	11

*Combined measurements for MP, PIP, and DIP contractures (if present)
**Nine patients underwent more than one type of prior treatment options

Table 2. Description of discrepant cases.

Age	Gender	Previous treatment	Pre- and post-operative diagnosis	Pathologic diagnosis
65	Male	None	Dupuytren contracture	Skin, dense fibrous tissue, and fibroadipose tissue with no significant pathologic change.
57	Female	Surgical excision	Dupuytren contracture	Skin and dermal scar tissue.
72	Female	None	Dupuytren contracture	Dense connective tissue, fibroadipose tissue, and nerves. There is no evidence of fibromatosis.
50	Female	Surgical excision	Dupuytren contracture	Disordered proliferation of small nerve fibers and perineurial cells within dense connective tissue with myxomatous change, consistent with traumatic neuroma. Fibroadipose tissue and skeletal muscle with no significant pathologic change.
73	Male	Surgical excision	Dupuytren contracture	Tendon, fibrovascular tissue and traumatic neuroma.
55	Female	None	Dupuytren contracture	Fibrocollagenous tissue. There is no evidence of palmar fibromatosis.
71	Female	Collagenase injection	Dupuytren contracture	Scar tissue.
77	Female	None	Dupuytren contracture	Tendinoligamentous tissue with mild degenerative changes, multiple levels examined.
67	Male	None	Dupuytren contracture	Subcutaneous tissue and fibroadipose tissue with no significant pathologic change. Tendon with no significant pathologic change.
59	Male	None	Dupuytren contracture	Dense fibrous tissue and scar.
63	Female	Surgical excision	Dupuytren contracture	Fascial tissue with focal scarring.