

# Dupuytren's Disease, a Contracture of Hand and Finger in a Middle Aged Man Labourer: A Different Etiopathology

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## Abstract

and contracture affecting the little finger. He was otherwise well, takes no medications, a non-factor in his case associated strongly with Dupuytren's contracture. A different etiopathology

**Keywords:** Dupuytren's contracture; Dupuytren's disease; Contracture finger and palm; Manual labourer; Hand exposure to vibration

## Introduction

Dupuytren's contracture is a benign disease associated with bro-

as etiopathology of this disease but specific causal relationships are yet to be determined(1). No single etiological factor has been described(1). We report a rare case of Dupuytren's disease in a middle aged man labourer who developed this disorder following exposure to vibrations. Implicating exposure to vibrating tools as a etiopathological factor.

## Case Presentation

We present first reported case in our center of Dupuytren's disease. A 43 year male presented to us with history of working in an industry associated with vibrations of tools. He is a right-handed man presented with seven-month history of limited extension of the little finger. Initially he was unable to extend his fingers fully despite stretching at home and exercises, the condition was progressive. He had a history of exposure to vibrating tools to their hands from an industry approximately for 2 years. Which may suggest a different mechanism of the disease? There was no history of diabetes, thyroid problems or Dupuytren's disease in family. No any past medical history, history of medications or alcohol intake. Physical examination revealed redness on both sides of little finger right hand and a palmar band extending from proximal interphalangeal joints to Metacarpophalangeal Joint. (Figure 1, Dupuytren's Contracture, little finger involvement). He had an extension deficit of more than 70° compared with the other hand. Night splinting was tried for couple of months but failed with no improvement in the contracture. The palmar band was excised and multiple Z-plasties done to correct the deformity. Histopathological

examination of the excised tissue revealed fibroblastic proliferation and indicated Dupuytren's disease.

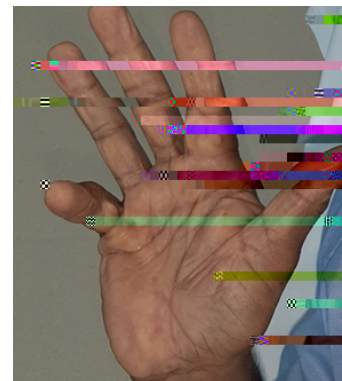


Figure 1: Dupuytren's contracture, little finger involvement.

## Discussion

Dupuytren's contracture is a disease mainly involves palmar and digital fascia (1) that results in fibrosis, cords and nodule formation, resultant

\*Corresponding author:

Received:

Accepted:

Published:

Citation:

and Finger in a Middle Aged Man Labourer: A Different Etiopathology . J Med Imp

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stiffness and contracture (2). The disease is named after Guillaume Dupuytren, a French surgeon (3). He came across the disease in 1831 (3) Plater and Cline suggested earliest surgical treatment respectively (4) Dupuytren's disease classified as infantile and adult (1). Superficial (fascial) and deep (musculoaponeurotic) (1). It's a fibromatosis (2) Dupuytren's disease belongs to adult superficial palmar fibromatosis along with knuckle pads (2, 11). Others variants are Ledderhose disease (Plantar fibromatosis) and Penile fibromatosis (Peyronie's disease) (2). The Dupuytren's disease is an aggressive variant of the pathology with more rapid progression comparison to others (2) this disease may have originated among Vikings of northern Europe (4). Possible association was found in Scottish bagpipe (4). In 18 and 19th centuries in Europe and North America have been reviewed the pathophysiology and treatment aspect of the disease in detail (3, 4). Dupuytren's contracture incidence is highest in Caucasians (1) those of Celtic descent (24%) and more in close relatives (74%) (1). The disease prevalent in men 7 to 15 times more than women (3). In comparison to men it is less severe in women sometimes it may go unnoticed in women (11) Although the incidence of the disease is same in elderly population after 70 years of age (4). The Ulnar side of hand is most commonly affected, ring, little and middle finger respectively (1). Incidence of disease increases with age (1). Approximately 5% of patients with this disease have diabetes mellitus (1). Alcohol consumption increases incidence of disease (5) Some studies suggest association of retinopathy and Dupuytren's disease due to micro-angiopathic changes (9). Smoking also associated with micro-vascular changes (2) Injury to wrist (6), shoulder dislocation (8), burns (7) also associated with higher incidence of Dupuytren's disease. Incidence of the disease is two to three times higher in epilepsy patients especially those who are on barbiturate medication (1). Rheumatoid arthritis has reverse association with disease (12). Some studies have shown electroencephalogram abnormalities were more common in patients with Dupuytren's disease (11). Dupuytren's contracture is associated with thickening and nodularity of the palmar fascia (15) All the digits, including the thumb, can be affected (15). Most commonly, the contracture of the palmar fascia causes the ring and little fingers to bend into the palm, with