

CASE REPORT

CASE REPORT :DUPUYTREN'S CONTRACTURE MAY BE THE INITIAL PRESENTATION OF DIABETES MELLITUS

Prabhat Agrawal¹, Akhilesh K. Singh², Ayush Agarwal³, Omkar Singh³

1. Asst Professor, P.G. Dept of Medicine, S.N. Medical College, Agra

2. Lecturer, P.G. Dept of Medicine, S.N. Medical College, Agra

3. Junior Resident, P.G. Dept of Medicine, S.N. Medical College, Agra

Corresponding author- Dr Ayush Agarwal

ABSTRACT

The etiology and pathogenesis of Dupuytren's disease remains a mystery. However, its prevalence is ten times more common in diabetics when compared to the normal population. It is usually a chronic complication of diabetes but can also be a presenting complaint. Therefore, all patients presenting with Dupuytren's should always have their blood sugar levels checked. Special emphasis regarding this should be given to individuals with Dupuytren's with age < 50 yrs, female gender, involvement of middle finger, benign involvement and no family history of Dupuytren's. Both these diseases are common and increase in prevalence with age and thus, Dupuytren's contracture can be an early sign of diabetes and also a late complication^{8,9}. Therefore, one should always look for it.

Keywords: Dupuytren's contracture, Diabetes mellitus, Blood sugar

INTRODUCTION

Diabetes mellitus is a chronic metabolic condition characterized by persistent hyperglycemia. Its mortality and morbidity are related to its microvascular and macrovascular complications. It is also associated with several musculoskeletal disorders of the hand, which can be debilitating. Dupuytren's contracture is one such deformity.

Reference to the literature reveals that an association between Dupuytren's contracture and diabetes has been frequently suggested¹. The reported incidence varies between 1.6% and 32% in different studies. J. Noble et al found the prevalence to be 42%². However, it is equally prevalent in type 1 and type 2 diabetes and no statistical difference was found between the two forms except that it occurs in younger individuals in type 1 diabetes^{6,7}.

The pathogenesis of Dupuytren's disease remains a mystery. The added component to this jigsaw includes whether in diabetic patients, diabetes causes Dupuytren's or are they inherited together. The most likely explanation is that diabetes is only a triggering factor for the development of Dupuytren's disease, as most patients with diabetes do not develop Dupuytren's disease. This is explained by the fact that both diabetes and Dupuytren's are chronic diseases associated with microvascular changes. These changes when present in diabetes encourage local hypoxia, which could lead to Dupuytren's in individuals who would not have been affected otherwise.

The usual patient profile of diabetes with Dupuytren's is an individual (equal prevalence in both males and females as opposed to male predominance in non-diabetic Dupuytren's) above the age of 50 years. The patient may present in any stage of Dupuytren's and the glycemic control is not related to the severity. However, the stage of Dupuytren's bears a direct correlation with the duration of diabetes². As with Dupuytren's in the normal population, the ring finger is most commonly involved, followed by the middle finger (as opposed to the little finger otherwise). It has also been found that severe forms of Dupuytren's are seldom encountered in the diabetic population, and if found, are more common in diabetic men².

CASE:

A 55 year old male presented to our outpatient department with chief complaint of progressive limitation of movement of his little finger of the right hand for past 6 months. On enquiry, there were no other complaints. After thorough examination, a diagnosis of Dupuytren's contracture was made. All routine investigations were normal, except random blood sugar, which came out to be 320 mg/dl. Confirmation was done by OGTT which revealed values of FBS- 210 mg/dl and PPBS- 390 mg/dl, thereby confirming the diagnosis of diabetes mellitus. A thorough history for diabetes was taken, including that for the common complications, but the patient had no complaints except increased frequency of micturition and weakness. After ruling out all the other causes of Dupuytren's contracture, diabetes was established as the likely cause for the same in this patient.



DISCUSSION:

Dupuytren's disease (DD) is a progressive fibro-proliferative disorder resulting in abnormal *scar-like* tissue in the palmar fascia leading to irreversible, permanent, and progressive contracture of the involved digits. It is named after **Dr. Baron Guillaume Dupuytren**, who was the first to operate on the condition⁴ and described it as “Retraction of the fingers, gentlemen, and particularly that of the ring-finger, has been observed for many years, but it is only very lately that the cause of this deformity has been investigated with success.”

Its overall incidence in Northern Europe is around 8%, rising to about 15% in those over 65 years³. The incidence increases with concurrent patient clinical conditions or factors such as diabetes, smoking, chronic alcoholism, seizures, and infection⁵. It is commonly bilateral but usually more severe in one hand, and most frequently involves the ring finger, followed by the little finger. “Dupuytren-like” fibrotic tissue can occur on the dorsum of the hand over the knuckles (**Garrod's pads**), feet (**Lederhose's disease**), and penis (**Peyronies disease**).

There are many grading systems for the severity of Dupuytren's contracture. One grading system for Dupuytren's disease severity is as follows:

Grade 1 - Thickened nodule and band in the palmar aponeurosis; may have associated skin abnormalities

Grade 2 - Development of pretendinous and digital cords with limitation of finger extension

Grade 3 - Presence of flexion contracture

The rheumatological manifestations of diabetes mellitus can be grossly divided into¹⁰:

Characteristically associated with diabetes	Increased incidence in diabetes	Probable association with diabetes
Diffuse idiopathic skeletal hyperostosis	Adhesive capsulitis of shoulder	Carpal tunnel syndrome
Limited Joint mobility syndrome (DIABETIC CHEIROARTHROPATHY)	Adhesive capsulitis of shoulder	Gout
Diabetic muscular infarction	Neuropathic arthropathy	Osteoarthritis
	DUPUYTREN'S CONTRACTURE	Reflex symapthetic dystrophy
	Palmar flexor tenosynovitis (Trigger finger)	

CONCLUSION:

The etiology and pathogenesis of Dupuytren's disease remains a mystery. However, its prevalence is ten times more common in diabetics when compared to the normal population. It is usually a chronic complication of diabetes but can also be a presenting complaint. Therefore, all patients presenting with Dupuytren's should always have their blood sugar levels checked. Special emphasis regarding this should be given to individuals with Dupuytren's with age < 50 yrs, female gender, involvement of middle finger, benign involvement and no family history of Dupuytren's.

In a nutshell, the prevalence of Dupuytren's disease increases with the duration of diabetes and it is not related to the glycemic control. Both these diseases are common and increase in prevalence with age and thus, Dupuytren's contracture can be an early sign of diabetes and also a late complication^{8,9}. Therefore, one should always look for it!!

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