Introduction

Dupuytren's contracture is a benign fibroproliferaive disease that affects the palmar and digital fascia of the hand. The condition results in slow and progressive thickening and shortening of the fascia that leads to debilitating flexion contractures particularly of the metacarpophalangeal (MCP) and the proximal interphalangeal (PIP) joints [1,2,3]. The MCP joint is typically involved first, followed, in more severe cases, by PIP joint contracture. The distal interphalangeal (DIP) joint is unaffected in general.

Following Tubiana and Michon's grading system for Dupuytren's contracture, the degree by which the finger is bent is used to grade contracture into several stages. If more than one joint of a finger is bent, the angles of contracture are simply added together. Accordingly, Dupuytren's disease is classified into 4 stages (Figure 1) [3]. Stage N describes the presence of nodules without contracture.

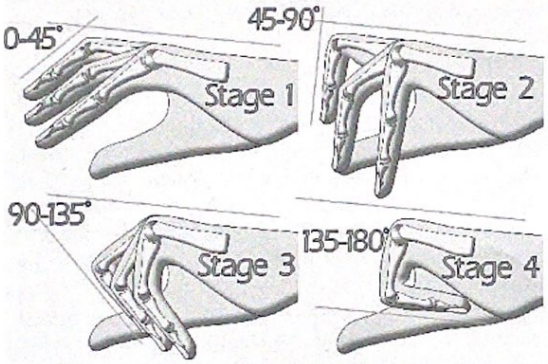

Figure 1. *Measuring the angle in Dupuytren's contracture*

The disease affects 4-6% of the Caucasians worldwide. It is very common in the people of Norden Europe descent. That is why it is also known by the slang term "Viking disease". The disease is named after Baron Guillaume Dupuytran, the surgeon who first described the operation to correct the affliction [1].

Many individuals have bilateral disease (50%). In unilateral cases the right hand is more often affected irrespective of hand dominance with the fourth and the fifth finger being most commonly involved [4].

Although the cause of Dupuytren's contracture is unknown, a family history is often present. Males are seven times as likely to develop the disease and more likely to have higher disease severity [5,6]. Male predominance may be related to expression of androgen receptors in Dupuytren's fascia [6,7]. Recent epidemiologic evidence has suggested that patients with Dupuytren's contracture also suffer from increased incidence and total mortality of cancer, indicating that the condition may carry a component of genetic susceptibility to other proliferative disorders of both benign and malignant nature.

Dupuytren's disease is a clinical diagnosis. The contracture is not fatal but significant morbidity can occur if the patients are not treated. Surgery maintains an important role in its management. Additionally in many situations like multiple digit involvement, recurrent disease or severe contracture, it remains the only solution [8].

Surgical treatment is usually indicated when MCP joint contracture of 30 degrees or greater is present. More over PIP joint contracture of 20 degrees or greater or even any degree of PIP joint contracture with documented progression is also an indication for surgical treatment. The rationale is that all the mentioned degrees of joint contracture are functionally limiting.

The simplest surgical treatment is open fasciotomy when the division of the Dupuytren's cord is performed through skin incision under direct vision control. The procedure is usually performed in the palm although it can be performed more distally at multiple levels in the digit. Best results are expected when an isolated metacarpophalangeal contracture is present [9,10,11].

Partial fasciectomy is the most commonly performed procedure for Dupuytren's contracture during which only the diseased parts of the fascia are excised. Although Dupuytren's disease may recur or progress by extension in the non-operated areas of the hand, good results have been obtained with acceptable complication rates.

In bilateral cases the initial operation is on the worst or dominant hand. If indicated the other hand can be operated 6-8 weeks after healing of the first hand.

Material and methods

Between January 2010 and December 2013, 150 patients with Dupuytren's disease were treated at the University clinic for plastic and reconstructive surgery in Skopje. The patients were categorized into stages I, II, III and IV as per the severity of the disease. A single digit involvement was noticed in majority of the cases (65%). In 32% of the cases 2 digits were affected by the disease whereas only 3% of the patients had 3 or more digits involved.

All of them underwent regional fasciectomy and/or open fasciotomy. Open fasciotomy was performed as a single procedure as well as a part of a combined treatment together with partial fasciectomy.

Most commonly incisions used for Dupuytren's fasciectomy were the Brunner incisions (zigzag plasties) or longitudinal incisions closed with "Z" plasties. Sometimes oblique incisions were also used. On the other hand, the open fasciotomy was performed through transversal incisions. All the wounds were closed by primary closure whenever it was possible without putting undue tension on the suture line. In the cases where open fasciotomy