

**Title :**

Minimizing cutaneous necrosis and delayed healing after surgical treatment for Dupuytren's contracture : the mini-chevrons incision.

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**Hypothesis :** Open fasciectomy requires adequate exposure of the diseased tissue.

Longitudinal incisions with Z-plasties or zigzag designs are most commonly used for this purpose. Elevation of large skin flaps may lead to secondary necrosis and delayed healing, the most common complications of surgical treatment. Our hypothesis was that raising flaps in a zigzag fashion but with very short arms could be an advantage regarding primary skin healing.

**Patients and Methods :** Continuous prospective series of all patients presenting with and operated for Dupuytren's contracture between November 2007 and November 2009. 54 patients (10 F/44 M, mean age 63 years, 47-94, three with recurrent disease) were operated using the mini-chevrons incision and followed by the same surgeon at regular intervals (mean FU 7 weeks, 4-16). Fasciectomy was otherwise performed according to standard rules. Severity of the disease was graded according to the number of affected rays, digital extension and Tubiana's stages (1 to 4). Skin healing was graded from 0 (no necrosis) to 3 (multiple points, extended or deep necrosis), at day 5 (first dressing), 12 (stitches removal) and 30. Other complications were recorded.

**Results :** Number of affected rays 1 : 22, 2 :16, 3 :9, 4 :5, 5 :2. Digital extension up to PIP : 34, up to DIP :12. Tubiana's stage I :14, II : 27, III-III+ :12, IV :1. The common approach was : one ray, one incision, implying multiple separate incisions, sometimes even on both sides of the same finger. Suction drainage was applied in three cases. No skin resection nor graft was performed.

Skin outcome (see figure for examples) : 7 superficial localized necroses at day 5 ; 13 superficial localized necrosis and 4 lightly more extended necroses at day 12 ; 3 minimal residual necroses requiring no dressing at day 30. Four hematomas with spontaneous resolution. The second week - as with any other technique - was the most critical. More severe disease was associated with more healing problems. Altogether, no serious skin necrosis and a high degree of satisfaction for the surgeon and the patients in this series.

**Summary :** The mini-chevrons incision has many advantages. For the surgeon : simple design, easy to learn and easy to teach, it is versatile, ubiquitous, easy to combine with other local flaps (V-Y) or incisions. For the patient : primary skin healing and, hence, immediate postoperative quality of life are promoted.

Figure

