

## Original Article

### **Percutaneous Fixation of Displaced Calcaneal Fracture**

經皮微創內固定手術在移位性跟骨骨折的研究

*Yeung Yip-Kan, Ho Yuen-Fong*

#### **Abstract**

**Purpose:** To review the techniques and outcomes of percutaneous fixation, with the modified Essex-Lopresti technique, in isolated, displaced tongue-type calcaneal fractures.

**Methods:** This is a retrospective review of 24 patients who received percutaneous calcaneal screw fixation in our hospital, from April 2003 to June 2009. One patient had bilateral fixation performed. All patients had a serial of X-rays of the injured foot, which included anteroposterior, axial, lateral, and Broden's views. Preoperative and post-operative Bohler's and Gissane's angles were measured. The patients' conditions were continuously assessed in serial follow-ups, and the Maryland Foot Score was used to evaluate the clinical outcome.

**Results:** Bohler's and Gissane's angles were fully restored in 13 and 17 out of 25 fractures, respectively. The mean duration of post-operative hospital stay was 4 days. There were no major post-operative complications. Sixteen patients were able to resume their original jobs. The Maryland Foot Score rated 13 out of 25 injured limbs (52%) as excellent, 9 (36%) as good, and 3 (12%) as fair. There were no patients rated as poor. The three patients with fair results complained of pain and stiffness at the subtalar joint.

**Conclusion:** Percutaneous fixation of displaced tongue-type calcaneal fractures is an effective treatment with acceptable clinical outcome, short hospital stay, minimal skin complications, and quick recovery.

#### **中文摘要**

**目的:** 探討以改良Essex-Lopresti經皮微創螺絲釘內固定手術在單純移位性舌形跟骨骨折病人的技術及術後結果。

**方法:** 回顧2003年4月至2009年6月間, 有24位舌型跟骨骨折病人, 曾於本院接受經皮微創螺絲釘內固定手術。其中一名病人的雙足均要接受手術。每名病人均需要接受一系列X光檢驗包括前後、側面和Borden透視圖, 並記錄術前和術後的Bohler角和Gissane角。同時於覆診時跟進病人的情況, 及以Maryland足部評分標準作術後評

估。

**結果:** 根據X光顯示, 有13個Bohler角和17個Gissane角於術後獲得完全矯正。術後平均住院時間為4天。手術沒有產生任何嚴重併發症。十六位病人能夠重投原本的工作崗位。按Maryland足部評分標準, 在25名患者中, 術後復原為「優」的佔13例(52%), 「良」9例(36%), 「可」3例(12%), 無個案評定為「劣」的。在「可」3個病人中, 主要是距下關節出現痛楚及僵硬。

**總結:** 經皮微創螺絲釘內固定手術在單純移位性舌形跟骨骨折是一種有效治療, 其術後臨床結果令人滿意, 並具有減少住院和康復時間及術後傷口併發症風險的優點。

**Keywords:** *percutaneous fixation, calcaneum, fracture*