

## **Correlation Of Bohler's Angle And Heel Varus Measurement On Functional Outcome Of Patients With Conservatively Managed Displaced Intra-Articular Calcaneal Fractures**

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### **INTRODUCTION:**

Displaced Intraarticular Calcaneal Fractures are destructive and causes displacement of bone and joint surfaces that could lead to severe, painful arthritis and heel pain that could delay patient's return to pre-morbid function. This study determined if there was a correlation between changes in the Bohler's Angle and Heel Varus angle with functional outcome using AOFAS ankle-hindfoot scores and SF-36 of patients managed conservatively or unable to undergo surgery.

### **METHODS:**

Fifty patients, 18 years old and above with closed displaced intraarticular calcaneus fractures that was treated conservatively were included in the study from May 2013 to June 2014. Bohler's Angle and Heel Varus was measured and correlated with functional outcomes using AOFAS ankle-hindfoot score and SF-36.

### **RESULTS:**

The mean age of the patient included in the study was 42.9 years old and mostly were male (76%) and right extremity (48%) was affected. Correlation done showed that the Bohler's angle had a positive moderate correlation with AOFAS ankle hindfoot scale and weak positive weak correlation with SF-36. The heel varus angle showed positive weak correlation with AOFAS ankle hindfoot scale and negative weak correlation with SF-36.

### **DISCUSSIONS:**

Calcaneus is the most commonly fractured tarsal bone. Until now, the treatment remains controversial in which is more superior – operative or nonoperative management. In developing countries, the

burden of operative management is high and most patients are unable to comply with surgery due to financial limitations.

This study showed that the measured AOFAS ankle-hindfoot scale is higher compared to other studies. In this study the measured AOFAS was 86.72, while other showed a range of 72.4+14.9 6 and 77.2+15.5. 7 While the measured SF-36 was comparable to the other studies, in this study, the Physical mean score is 50.64 and Mental mean score is 59.84, others showed a Physical mean score of 42.5+21.4 and Mental mean score of 50.5+21.9.

### **CONCLUSION:**

There was correlation between the variables. However, it only showed weak correlation. It is suggested that this study needs a larger population group to reach a definitive conclusion.

Our study showed that there is minimal improvement in the Bohler height as well as heel varus alignment on follow ups. Bohler's Angle has positive correlation with AOFAS and SF-36 functional outcome. While, heel Varus measurements were inversely correlated with AOFAS and SF-36.

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