

**Abstract Number: 18125**

## **Clinical and radiographic comparison of the first metatarsocuneiform joint in normal individuals and patients with hallux valgus**

Paulo César de César<sup>1</sup>, Augusto Campagna Torres<sup>1</sup>, Alexandre Severo do Pinho<sup>1</sup>

1. Hospital Mãe de Deus, Porto Alegre, RS, Brazil.

### **ABSTRACT**

**Introduction:** The relationship between the inclination of the first metatarsocuneiform joint (FMCJ) in the anteroposterior (AP) plane and the hallux valgus (HV) deformity is controversial. The objectives of our study are to assess whether the FMCJ inclination in the AP plane affects the presence and severity of HV and first ray sagittal mobility (FRSM).

**Methods:** In this study, 35 control feet (22 patients) and 37 feet with HV (25 patients) were evaluated. Hallux valgus was graded using the HV angle (HVA), and the inclination of the FMCJ in the AP plane was assessed using the method described by Hardy and Clapham. The radiographs were taken as described by Maestro, in 2 institutions. The FRSM was measured using an Eulji Medical Center (EMC)-like manual device (previously described and validated).

**Results:** HVA, in controls: 8.75°; in cases: 23.74°,  $p < 0.001$ . FMCJ inclination in the AP plane, in controls: 8.60°; in cases: 13.33°,  $p = 0.001$ . Correlation between the FMCJ inclination in the AP plane and the HVA, in controls:  $r = 0.24$ ,  $p = 0.16$ ; in cases:  $r = -0.01$ ,  $p = 0.98$ . Correlation between the FMCJ inclination in the AP and the FRM, in controls:  $r = -0.16$ ,  $p = 0.37$ ; in cases:  $r = -0.10$ ,  $p = 0.55$ .

**Conclusion:** The inclination of the FMCJ in the AP plane was greater in the patients with HV, indicating that a larger slope of the FMCJ can be a risk factor for HV. There was no association between FMCJ inclination and the severity of HV. There was no association between FMCJ inclination and FRSM; therefore, we cannot define the mobility or even the hypermobility of the FMCJ based on the FMCJ with the largest inclination in the AP plane. Performing the radiographic examinations at the same institutions kept the protocol constant, thereby decreasing measurement errors.

**Keywords:** Hallux valgus; Tarsal bones; First ray sagittal mobility.

