

Hallux valgus and fusion of the middle phalange of V ray

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Hallux valgus (HV) is a foot deformity commonly seen in medical practice, often accompanied by

significant functional disability and foot pain. Its prevalence in the adult population is in 23% in adults (18-65 years) and 35.7% in elderly people (over 65 years) and is higher in females (30% compared to males 13%). The anatomical variation of the lateral rays has been ascribed to the process of involution of the feet and of its functions and actions. The intermediate phalanges of the V ray can be fused or also reduced in volume. The aim of the study was to evaluate a possible association between HV and anatomical variation of V ray. The standard radiographs of 100 patients (M 21, F 79, mean age 53y) with clinical diagnosis of HV were analysed. The HV angle was 29.84 (range 16.9 - 62,5), the 1-2 intermetatarsal angle was 10.92 (range 6.93-16.63) and the hallux interphalangeal angle was 10.55 (range 1,8 - 35.3). In 98% of cases there was the presence of fusion of the phalanges. A series of 100 consecutive patients (M 25, F 75, mean age 48y) were also analysed and basing on the review of the standard radiographs the fusion of the middle phalange was found in 42% of cases. There are conflicting notions about aetiology of HV as well. Occupation, shoe wear, genetic predisposition, and pes planus have been implicated. Our study show a strong association between the HV and fusion of the middle phalange. The presence of an anatomical variation of the V ray could modify the biodynamic of the walk and consequently influence the development and progression of the HV.

Keywords: anatomical variation, radiology, foot, walk