

Interobserver Reproducibility of Probing to the bone in the diabetic foot Osteomyelitis Diagnosis

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Introduction: The technique of probing to bone was defined and validated by Grayson et al in 1995 and later in 2006 by Lavery. But despite demonstrated validation, one of the limitations of previous studies and one of the most important properties that should require a diagnosis test is its reproducibility. Objectives: 1. To assess interobserver reproducibility of probing to bone test. 2. To establish the differences between observers in the diabetic foot specialist, in training and without experience. 3. To determine if this test as a diagnostic method is transferable to any speciality of health. Material and Methods: Longitudinal and prospective study, which include 36 patients with diabetic foot ulcer and osteomyelitis suspect, 25 (69,4%) male and 11 (30,6%) female, average age of $65,61 \pm 12,15$ years. The diabetes duration time was $17,80 \pm 17,2$ years, 2,8% (n=1) of patients suffered Diabetes mellitus type 1 and 97,2% (n=35) type 2, Hb1Ac average of 6,6 mg/dl. The ulcer type was neurophatic in 61,1% (n=22), 27,8% (n=10) neuroischaemic, and 11,1% (n=4) ischemic, with average ulcer duration time of $26,94 \pm 85,68$ weeks. 47,2% (n=17) presented sinus tract, 38,9% (n=14) infection, and in 47,2% (n=17) radiology osteomyelitis signs. The most common localization of ulceration was central metatarsus in 30,6% (n=11) and medium toes in same proportion. Probing to bone test was performed in all patients by three different professionals with different skills: Very skill professional in managing diabetic foot for several years (Observer 1), Moderately experienced professional with more than 6 months but less than one year of experience (Observer 2), and novel professional in diabetic foot managing (Observer 3), individually and without knowing the outcome of previous clinical. Data were collected confidentially by a 4th researcher. Kappa test was performed to calculate interobserver reproducibility. Results: We observed a Kappa index of 0,67 between observer 1 and 2, 0,35 between observer 1 and 3 and 0,65 between observer 2 and 3. Conclusions: Reproducibility of probing to bone test was good between very skill and moderately professionals. Kappa index was very low between observer 1 and 3. Training and skills of the professional who attends patients with potential osteomyelitis due to diabetic foot ulcer could be influence in the clinical diagnostic of this complication.