[P53] UTILITY OF SUDOMOTOR FUNCTION TEST AS A CLINICAL TOOL IN RISK STRATIFICATION SYSTEM OF DIABETIC PATIENT

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Aim: To identify the neurological screening clinical test that allows earlier and most accurate identification of patient's risk to developing diabetic foot ulcer (DFU).

Method: Follow-up prospective study with 263 patients from the Diabetic Foot Unit of the Complutense University of Madrid enrolled consecutively between July 2011 and April 2015. Diabetic patients without active foot ulcer were classified by the International Working Group of Diabetic Foot (IWGDF) risk stratification system. Diabetic neuropathy was evaluated according to the results of Semmes-Weinstein Monofilament (SWM)/Biothesiometer and on the other hand by Sudomotor function test (SFT).

Results/Discussion: 60 (22.8%) patients developed DFU during a mean follow-up of 41.55 ± 3.5 [35-48] months. 10 (16.7%) patients who were diagnosed diabetic neuropathy by the SWM/Biothesiometer and were classified into the group risk 0 (without risk to develop foot ulcer) developed foot ulcer during the follow-up. In contrast, any patient was included according to the diagnosis of SFT into the group risk 0 that developed DFU during the follow-up.
SFT was considered independent and statistically significant factor in the final Cox regression model of DFU prediction during the follow up [p=0.002; HR: 4.3 (CI: 1.7-11.1)].
The diagnostic prediction model regarding the development of DFU in follow-up shown areas under the ROC curves of 0.77 according the results of SWM/Biothesiometer (83.33% of sensitivity and 50.74% of specifity) and 0.81 according to the SFT results (100% of sensitivity and 31.53% of specificity).
Risk stratifications systems of diabetic patients introduce diabetic neuropathy in lower levels of risk (level 1 or 2). However, there is no consensus on which or how many test neurological screening are needed to consider a patient as neuropathic. There is no unanimity among the authors about what is the most accurate clinical test for diagnosis diabetic neuropathy. The risk stratification systems in the literature evaluate diabetic neuropathy by SWM/Biothesiometer, but some studies have already doubts about its diagnostic accuracy.
In our study, SFT shows 100% of sensitivity to predict the risk of development DFU, because it was affected in most of the patients that developed an ulcer at follow-up period.

Conclusion: Risk stratification system according to the SFT results identify earlier and with greater accuracy diabetic patients with risk of developing DFU than according to the standard neurological test results. The results of this research clarify that is needed to include SFT in the risk classification system because when the standard test are used under-diagnosis for diabetic neuropathy is developed and under-stratification of risk is caused.