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Epidemiology of   sudomotor dysfunction and relationship to overall nerve damage in type 2 diabetic patients .A multicenter study

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Background and aims: Sudomotor dysfunction (SD) has not been assessed in epidemiological studies. The aim of the present study was to investigate the prevalence SD in type 2 diabetic patients on a multicenter study and assess any relation to overall nerve fibre damage **Materials and Methods**: The study included 1010 type 2 diabetic patients randomly selected from those attending five (5) diabetes centers. There were 608 males (60.19%). Mean age and diabetes duration were 63.90 ± 10.26 and 12.24 ± 7.75 (yrs) respectively. A new indicator plaster method (neuropad) recently approved was used for the diagnosis of SD. Assessment of overall nerve fibre dysfunction was performed and graded clinically using the Neuropathy Disability Score (NDS). The plaster (colour blue) was applied for 10 minutes on the plantar aspect of the feet and the results recorded as pink, patchy (blue/pink), and blue. The abnormal   result defined as patchy and/or blue indicated patients with   SD. **Results**: 1) 441 patients (43.7%) were found with SD – group A. They were older (66.74 ± 8.78 vs 61.71 ± 10.79 yrs $p < 0.0001$), had longer duration of diabetes (14.42 ± 7.63 vs 10.54 ± 7.42 yrs, $p < 0.0001$) in comparison with those (n=569) without any sign of SD - group B. 2) The signs of developed SD had 94.9% sensitivity and 70.2% specificity for overall fibre dysfunction. 3) Furthermore more severe peripheral somatic neuropathy (NDS 6.85 ± 5.59 vs 1.25 ± 1.79, $p < 0.0001$) was detected in SD patients in comparison with those expressing normal SD tests. 4) In the logistic regression analysis age, diabetes duration but not sex were found to affect the development of SD. ($p < 0.05$) **Conclusion:** The findings of the present study indicate that Sudomotor Dysfunction affects a large proportion of diabetic patients. The study also identifies the most important risk factors for SD, e.g. age, long diabetes duration. Proper foot care and education for this population is of great importance since SD is associated with peripheral nerve fibre damage.