

Diagnostic logic and the assessment of diabetic autonomic neuropathy

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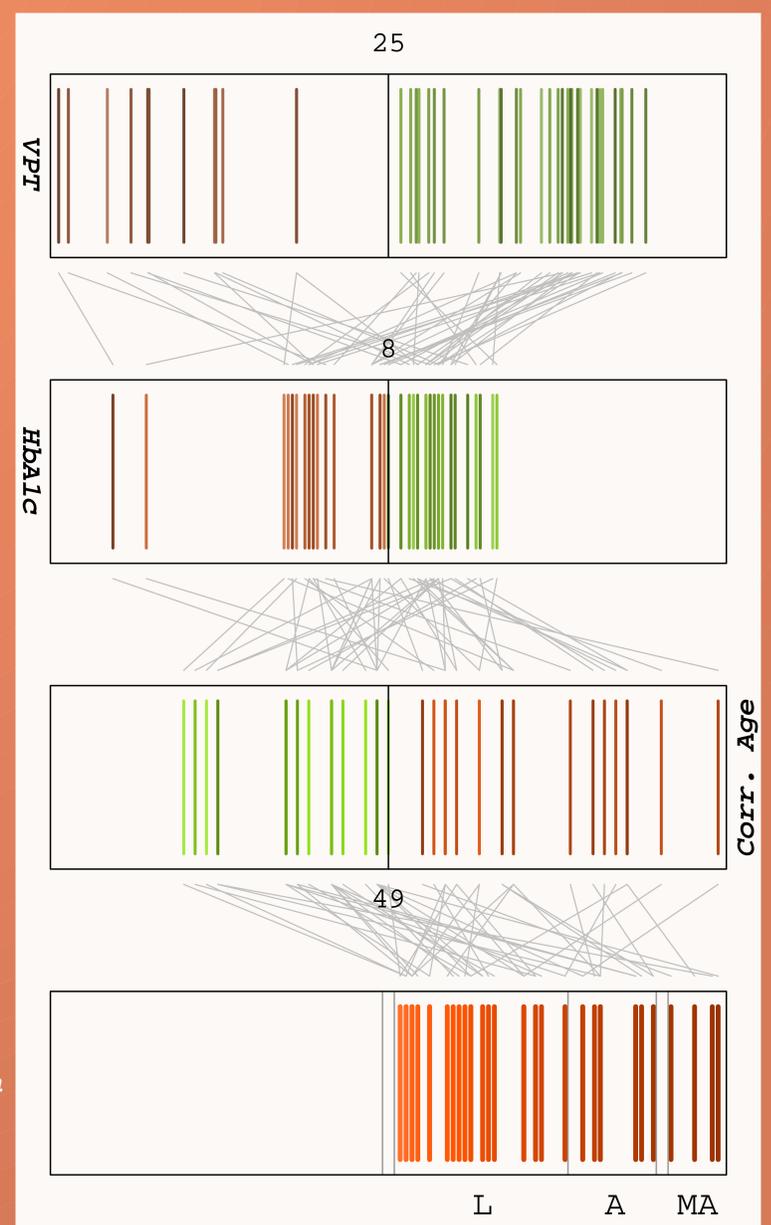
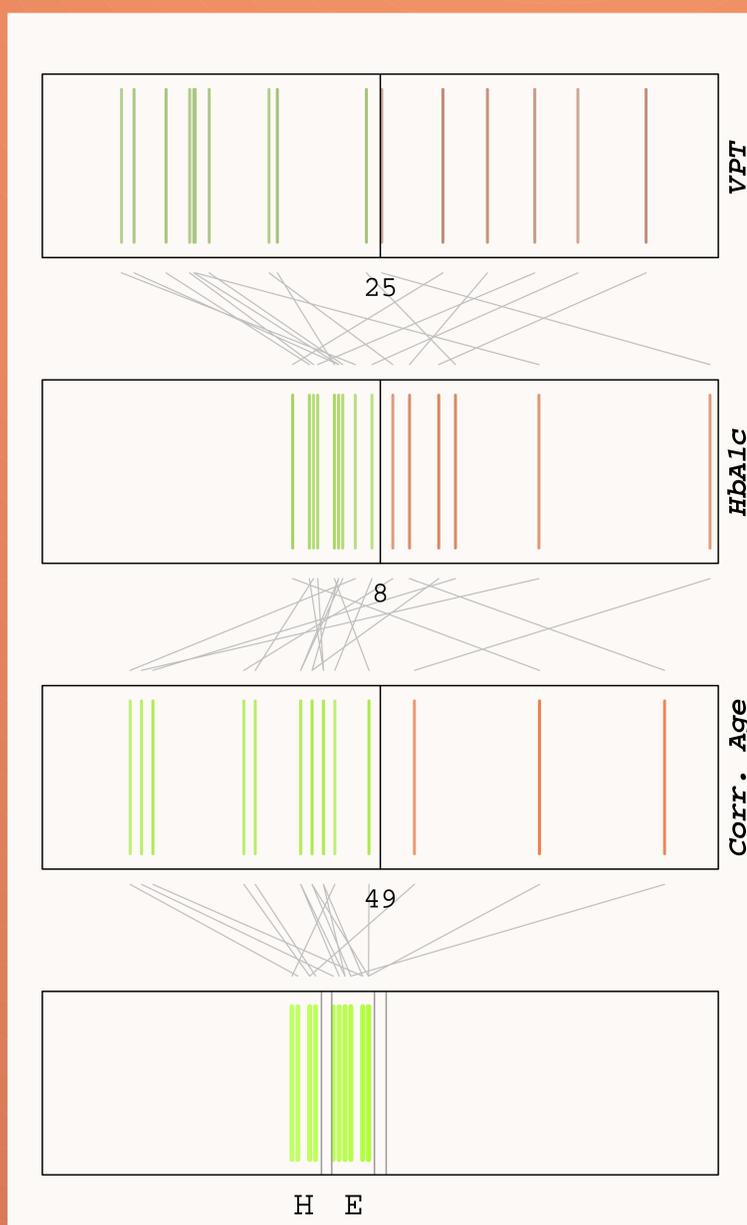
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Aim : The purpose of this study was to distinguish the logical connections between peripheral neuropathy, blood glucose control, the aging process and autonomic neuropathy in a population of non-diabetic volunteers and type 2 diabetic patients.

Method : After approval by the ethics committee, 83 patients (37 females and 46 males) were enrolled in this study. 21 were non-diabetics, 20 had diabetes for less than 1 year, 25 for 2 to 9 years and 17 for more than 10 years. Mean age for the non-diabetics was 49 +/- 13 years and 52 +/- 11 years for the diabetics. All underwent HbA1c dosage, VPT measurement using a biothesiometer and autonomic dysfunction assessment with the ANSiscope™ (Dyansys Inc., USA). Patients with mean VPT > 25 V were considered as having peripheral neuropathy, with HbA1c > 8 % as having unsatisfactory blood glucose control. The ANSiscope classifies patients into 5 groups of autonomic neuropathy : healthy (H), early (E), late (L), advanced (A) and most advanced (MA). Age of patients was normalized by addition of diabetes duration with proportional preservation of maximum age.

Results



Conclusion(for 48 out of 62 diabetics): The population belonging to the advanced and most advanced groups, as classified by the ANSiscope™, is solely made of diabetic patients. All patients with HbA1c < 8 %, VPT < 25 V and age < 49 yrs were classified in the healthy and early groups. All the patients classified with late, advanced and most advanced autonomic neuropathy had HbA1c > 8 % (ranging from 5.4 to 15.9 % for diabetic patients) and/or VPT > 25 V and/or age > 49 yrs. We found patients with HbA1c > 8 % and/or VPT > 25 V and/or age > 49 yrs who did not have autonomic neuropathy as assessed by the ANSiscope™. These findings suggest that, using the ANSiscope™, one could distinguish those with or without autonomic dysfunction in a homogeneous population of patients.