Nervous System

10.5 Blood Pressure and Cognitive Function in Elderly Patients with Diabetes Mellitus Type 2

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Introduction. This study evaluated the effects of cognitive impairment on blood pressure (BP) in elderly subjects with diabetes mellitus (DM) type 2.

Methods. 73 elderly patients (34 Males, 39 Females, mean age 74 + 8 years) with hypertension and DM type 2 (DM) were included. This group was compared with another group of 61 elderly subjects (28 Males, 33 Females, mean age 73 + 9 years) with hypertension only (H). We recorded: (1) Blood tests; (2) Measurement of blood pressure; (3) Measurement of blood pressure in the 24 hours (ABPM); (4) Mini Mental State Examination (MMSE).

Results. Systolic and diastolic blood pressure levels in DM group were higher versus H group ($p < 0,001$ and $p < 0,01$). There were non-significant differences in the variability of BP in ABPM. Patients who underwent the MMSE were divided into 4 group: (1) severe cognitive impairment (MMSE between 0 and 16); (2) mild-moderate cognitive impairment (MMSE between 11 and 23); (3) mild cognitive impairment (MCI) with MMSE between 24 and 27; CDR 0,5; sectional impairment in memory and self-efficiency; (4) normal cognitive function (MMSE > 24). In DM group we detected a larger prevalence of mild-moderate cognitive impairment versus H group. With age, gender and hypertension there is a significant positive connection between diabetes mellitus type 2 and MCI ($p < 0,02$).

Conclusions. Diabetes mellitus is predictable of cognitive impairment in the oldest. This correlation can be caused by micro or macroangiopathy, inflammation or resistance to insulin. Patients with diabetes mellitus type 2 also have higher values of systolic and diastolic blood pressure than those without diabetes mellitus type 2 but with hypertension.