Artiﬁcial oligosaccharides is an important vascular change induced by hypertension. Blood ﬂow of kidney and perforating artery in the brain in essential hypertensive patients are determined by the severity of arteriolosclerosis in each region. The aim of the study was to evaluate relation of effective renal plasma ﬂow (ERPF) and regional cerebral blood ﬂow (rCBF) including basal ganglia as perforating artery region in essential hypertension using renography and brain SPECT imaging. The study subjects were 28 essential hypertensive patients (56.2 ± 10.5 years, M/F = 16/12). ERPF was determined by dynamic renal scintigraphy by clearance method using ⁹⁹mTc-mercapto acetyl triglycine. The rCBF was quantitatively measured by N-isopropyl-p-[¹³¹]Iodoamphetamine autoradiography method. Regions of interest on rCBF images were set in the frontal, temporal, parietal, occipital cortex, the basal ganglia and the cerebellum. The rCBF in the frontal, temporal, parietal, occipital cortices and the cerebellum were not correlated to ERPF (r = 0.38, p < 0.05). We conclude that hypertensive arteriolosclerosis at the kidney and at perforating artery region in the brain develops in parallel.

Key Words: Hypertension; cerebral blood ﬂow; renal blood ﬂow

24-HOUR NONINVASIVE CONTINUOUS FINGER BLOOD PRESSURE VARIABILITY AND CEREBRAL WHITE MATTER LESIONS. PRELIMINARY RESULTS

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The aim of the present study was to assess the relationship of 24-hour noninvasive continuous finger blood pressure variability to the presence of cerebral white matter lesions (WML) in asymptomatic middle-aged untreated hypertensive patients. Seventeen mild to moderate never treated essential hypertensive patients (11 men, 6 women), aged 50–60 years, without clinical evidence of target organ damage were studied. All patients underwent a brain-magnetic resonance imaging and a 24-hour noninvasive beat-to-beat blood pressure monitoring by means of a Portapres device. Systolic (SBP), diastolic (DBP) and mean (MBP) blood pressures were obtained from each single pulse wave by the FAST software. We calculated 24-hour SBP, DBP, MBP, pulse pressure (PP) as well as short-term variability (average of the standard deviations obtained for each half-hour MBP) and long-term variability (standard deviation of the average of the half-hour MBP values). Preliminary results show that middle-aged hypertensives with silent cerebral WML have a tendency towards higher values of SBP, DBP, MBP, PP, and long-term variability than hypertensives without WML.

These preliminary results suggest that, in addition to the severity of BP values, long-term BP variability may be associated with the development of cerebral white matter lesions.

Key Words: Continuous ﬁnger blood pressure; blood pressure variability; cerebral white matter lesions

STROKE HOSPITALIZATION IN THE SOUTHERN UNITED STATES, 1979–1997

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It is well known that stroke mortality is highest in the southern part of the United States. Less is known about stroke morbidity. We have analyzed the National Hospital Discharge Survey data 1979–1997 to compare stroke hospitalization in the south to that of the rest of the country.

From 1979 to 1997, total hospitalizations declined by 8% in the south and by 20% in the rest of the country. At the same time, stroke hospitalization increased by 76% in the south, thus increasing the percentage of all hospitalization related to stroke from 2.1–3.7%, and 55% (2.0% to 3.1%) in the rest of the country. Death among those hospitalized for stroke decreased by 48% (11.1% to 5.8%) in the south, and 53% (13.6% to 6.4%) in the rest of the country. In the south, during this time, stroke hospitalization increased more among non-blacks (81%), thus increasing the percentage of all hospitalization due to stroke among non-blacks (2.1% to 3.8%), compared to blacks (55%) (2.0% to 3.1%). In the south, mortality among those hospitalized for stroke declined for blacks and non-blacks, although not smoothly, with average (1979–1997) stroke mortality of 8.5% and 8.2% for blacks and non-blacks respectively. Hemorrhagic stroke was more common and increased more in blacks (11.2%–18.3%) than in non-blacks (6.3%–9.1%), while ischemic stroke was initially similar and increased slightly more among non-blacks (26.5%–51.9%) than blacks (25.3%–47.6%). Of note, non-blacks had higher mortality than blacks for hemorrhagic stroke (32.4% vs 29.4%) and ischemic stroke (6.4% vs 6.1%).

In summary, hospitalization for stroke in the south increased more, and mortality decreased less, than in the rest