were significantly older (70 ± 8 years) than men without a history of CVD (n = 84; 63 ± 10 years); they were also more often current (10%) or ex-smokers (60%). Women with CVD (n = 22) were also significantly older (71 ± 9 years) than those (n = 77) without CVD (65 ± 8 years); the difference in smoking habits was not significant. Mean values of blood pressure (BP) in men without and with CVD (x ± SD): SBP/DBP (mmHg) 146 ± 17/85 ± 13; 144 ± 16/77 ± 11, respectively, were different; men with CVD had significantly lower diastolic BP and, consequently, higher pulse pressure than men without CVD ($p < 0.05$). Both men and women with CVD had a longer medical history of hypertension (12 ± 9 years; 16 ± 14 years, respectively) than those without CVD (10 ± 8 years; 13 ± 9 years, respectively) ($p < 0.01$). Mean values of BP in women without and with CVD were not different: SBP/DBP (mmHg) 150 ± 18/83 ± 13; 150 ± 26/82 ± 12, respectively. Heart rate did not differ in men and women according to the presence of CVD. Over 80% of patients were treated with ACE inhibitors, and over 65% received combination therapy of 2 or more antihypertensive drugs. The recommended targets of both SBP and DBP (i.e. below 130/80 mmHg) were achieved in only 6% of men and 9% of women. **Conclusion:** Control of hypertension was not satisfactory in our DM2 patients although extensive pharmacological intervention and recommended combination of antihypertensive drugs were used.

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P25

Risk Factors of Atherosclerosis and Metabolic Syndrome in Young Czech Population

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Aim: Atherosclerosis is a chronic disease of the blood vessel wall developing asymptomatically for a long time. There are atherosclerotic lesions types I–II (foam cells and fatty streaks) in 60% of adolescents. The aim of this study was to determine the incidence of the risk factors of atherosclerosis and metabolic syndrome. **Methods:** Casual BP, ABPM, anthropometric parameters, and laboratory values were determined. **Results:** A total of 276 participants (51% of women) aged 23.8 ± 3.6 years were enrolled. Hypertension was diagnosed using casual BP in 25.4% of individuals, and using ABPM in 28.3% of individuals. Casual hypertension was verified by ABPM in 17.0% of men and in 12.1% of women. There were 5.9% of male smokers and 12.1% of female smokers. Overweight (BMI 27–29.9) was present in 2.2% of individuals, and 1st degree obesity (BMI 30–34.9) in 0.7% of individuals. No man had a waist-to-hip (WHR) ratio above 1.0 while 2 women had a WHR above 0.85. A total of 2.2% of men had waist larger than 102 cm. Cholesterol >5 mmol/l was present in 24.4% of individuals; LDL > 3 mmol/l in 16.8% of individuals; triglycerides >2 mmol/l in 4.4% of individuals; HDL < 1 mmol/l in 8% of men; and HDL < 1.2 mmol/l was present in 2.3% of women. Glycemia of 6.1–7.0 mmol/l was present in a total 2.7% of participants. **Conclusion:** The metabolic syndrome was diagnosed in 3 men and 2 women. There is a high prevalence of hypertension, and a low prevalence of smoking and obesity. Young women had a more appropriate lipid spectrum. Sportsmen had lower diastolic BP, higher HDL, and lower LDL. A positive family history is a risk factor for hypertension and dyslipidemia.

P26

Use of the Ankle-Brachial Pressure Index in the Evaluation of Cardiovascular Prognosis of Diabetic Patients with Hypertension

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Our aim was to assess the incidence of cardiovascular events and to estimate the prognosis of patients with hypertension and diabetes mellitus (DM) (Group A) as compared with hypertensive patients without diabetes (Group B). We evaluated 174 patients (140 males and 34 females; mean age 65.6 years) with hypertension and asymptomatic or symptomatic atherosclerotic disease of lower limbs with the ankle-brachial pressure index (ABI) below 0.9. Group A included 75 diabetic patients (63 males, 12 females; age 65 years), Group B included 99 non-diabetic patients (77 males, 22 females; age 65 years). Average ABI was 0.64 in Group A and 0.78 in Group B. There was only a small difference between both groups in therapy with antihypertensive drugs, statins, and antiplatelet agents. The incidence of cardiovascular events was monitored over a period of 32 months. Significant differences between both group were seen in the incidence of unstable angina pectoris (13.3% vs. 7.1%), revascularization surgery (17.7% vs. 10%), need for coronary intervention (6.5% vs. 2.2%). There was more than a double occurrence of cerebrovascular events in Group A as opposed to Group B (9.3% vs. 5.1%). Mortality of diabetic patients during the follow-up period was 20.0% as opposed to 9.1% in non-diabetic patients. Patients with hypertension and DM and decreased ABI represent one of the most risky groups of patients because of their high incidence of cardiovascular complications even while on intensive treatment.

P27

One-year Follow-up of Ankle-Brachial Blood Pressure Index in Hemodialysis Patients

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Objective: Baseline Ankle-Brachial Blood Pressure Index (ABI base.) was measured in 85 chronic hemodialysis (HD) patients in 2005, giving a 41% prevalence of peripheral arterial disease

(ABI < 0.9). The index was measured 1 year later (ABI 1 year) in 69 HD for whom both screening values were available. The evolution of ABI, 1 year apart, was analyzed in relation to major other cardiovascular (CV) risk factors such as hypertension (HT), pulse pressure (PP), pulse wave velocity (PWV), phosphocalcic metabolism, and lipids. **Method:** ABI was measured (Doppler) in 69 chronic HD patients (3 times/week) in the University Hospital Dialysis Center. Three levels of ABI were defined as follows: <0.9; 0.9–1.3 and >1.3. Hypertension was defined by pre-dialysis WS > 150–85 mmHg or by the presence of antihypertensive medications. PWV (carotid-femoral) was measured with the SphygmoCor®. **Results:** ABI 1 year apart correlated significantly (r = 0.43; p = 0.0004). For the whole sample, no significant differences were observed between the 2 times of screening concerning lipids, weight gain or phosphocalcic parameters. The frequency of HT (higher in men than in women) remained the same: 88% at baseline and 87% at 1 year. Brachial PP was inversely related to ABI (p = 0.01). At baseline (2005), 39% of HD patients had an ABI < 0.9; 1 year later, the frequency increased to 50%. That shift of ABI distribution to lower values within 1 year was observed mainly in men. HD patients with an ABI < 0.9 (at baseline and 1 year later) had the highest frequency of HT (94%), 90% have already had a CV event, 25% had diabetes and 46% had a PWV > 10 m/s. For those with a baseline ABI 0.9–1.3, 30% decreased to a value <0.9, and 13% increased to values >1.3. Among those remaining in the 0.9–1.3 group, 76% had HT, 67% have had a CV event, 19% had diabetes and 30% had a PWV > 10 m/s. **Conclusions:** This follow-up of ABI allowed to assess the short-time evolution of a non-negligible number of HD patients towards an increased CV risk although not necessarily explained by some common dialysis screened parameters. However, a normal or a high normal ABI (0.9–1.3) alone could not be considered a reliable indicator of a low CV risk.

P28

Comparison of Magnetic Resonance Imaging and Digital Subtraction Angiography in Diagnostic of Renovascular Hypertension

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Objective: Magnetic resonance angiography (MRA) has been increasingly reported to provide better results than noninvasive screening procedures in detecting renal artery stenosis. Recent studies have indicated that 3-dimensional MRA with gadolinium-based contrast agents (having a very low potential for nephrotoxicity) has a sensitivity of 96–100% and a specificity of 71–96% in detecting a main renal artery stenosis >50%. However, MRA still remains suboptimal for the detection of hemodynamically significant lesions of distal, intrarenal, and accessory renal arteries, which, under all circumstances, behave pathophysiologically as renal artery stenosis. A conventional renal angiogram or an intraarterial digital subtraction angiogram (DSA) remains the current diagnostic criterion standard test for detecting renal artery occlusive disease. **Aims:** (1) To compare results of MRA and DSA of renal arteries; (2) To find out if MRA can exclude or confirm renal artery stenosis, detect accessory renal arteries or, possibly, can help by planning PTA of the renal artery. **Material and Methods:** Twenty patients (13 men and 7 women); mean age 65 years (range: 40–79 years), with suspected renal artery stenosis, were examined using the Omniscan contrast agent within a period of 3 weeks. **Results:** MRA detected renal artery stenosis >50% in 18 renal arteries, DSA confirmed this diagnosis in 14 arteries. As a rule, a negative MRA was always associated with a negative DSA. MRA sensitivity was 100%, with MRA specificity being 78%. Both MRA and DSA detected five accessory renal arteries. **Conclusion:** MRA is an acceptable method for excluding stenosis of the renal artery. A positivity may mean we should be expect the same result with DSA and be ready for renal artery PTA. MRA negativity can exclude renal artery stenosis and prevent invasive testing.

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P29

Validation of a New Automated IMT Detection Algorithm

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Objective: Increased carotid artery intima-media thickness (IMT) is considered an early marker of atherosclerosis. To be useful as a risk marker, tools for non-invasive IMT measurements are required. This study aims to validate a novel automated IMT detector supplied by GE Healthcare, Cardiovascular Ultrasound. **Design and Methods:** Left and right carotid IMT was obtained from 150 subjects aged 35–55 years (300 cine loops). Manual (IMT_{man}) and automated (IMT_{aut}) IMT measurements were performed off-line. Intra- and inter-observer variability was assessed for manual and automated measurements and manually delineated IMT values were compared to automated measurement values. **Results:** IMT_{man} ranged between 0.31 and 1.22 mm with a mean value of 0.63 mm. Intra- and inter-observer correlation was excellent for manual (r = 0.92 and r = 0.89, respectively) and automated (r = 0.95 and r = 0.90, respectively) measurements (all $p < 0.001$). Bland-Altman analysis revealed no significant bias between measurements for manual and automated measurements for intra-observer variability and no significant bias for inter-observer variability of automated measurements. A small ($\Delta = 0.040$ mm) but significant ($p < 0.001$) bias was found for inter-observer variability for manual measurements. Correlation between manual and automated measurements was good ($r = 0.88$, $p < 0.001$). Bland-Altman analysis demonstrated a small ($\Delta = 0.023$ mm) but significant ($p < 0.001$) bias between automated and manual measurements in the study group, likely to be of clinical insignificance. **Conclusions:** Automated IMT measurements using a new detector provided by GE Healthcare show good correlation with carefully manually delineated IMT measurements by a trained operator. Inter- and intra-observer variability of the automated method is better than for manually delineated IMT with no significant bias between operators.