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Different arterial damage after an ischemic atherothrombotic stroke or an acute coronary syndrome

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Context: Atherothrombotic cardiovascular disease has both functional and anatomic components that can be assessed non invasively.

Objectif: To compare arterial properties after two different acute atherothrombotic event.

Design, setting, patients: Usual cardiovascular risk factors, carotid parameters, pulse wave velocity, brachial flow mediated dilatation and ambulatory blood pressure monitoring were assessed in a cohort of 100 patients who presented either acute coronary syndrome (Group 1, N=50) or ischemic atherothrombotic stroke (Group 2, N=50) matched for age and gender.

Main outcome: Differences of arterial properties according to the type of acute vascular events.

Results: History of hypertension, diabetes, dyslipidemia, cardiovascular heredity, smoking and body mass index were similar in both groups. All blood pressure parameters (clinic and 24-hour ambulatory blood pressure monitoring) were higher in group 2 (p<0.01). Metabolic abnormalities were more often experienced after an acute coronary syndrome, with higher prevalence in metabolic syndrome (28% vs. 10%, p=0.02) and higher triglycerides (1.76±0.91 vs. 1.36±0.68 mmol/L, p=0.02) and glucose levels (5.89±2.16 vs. 4.92±0.74 mmol/L, p=0.003). Carotid intima-media thickness and carotid-to-femoral pulse wave velocity were significantly higher in group 2 than group 1 (1.28±0.74 vs. 1.12±0.64 mm, p=0.03; 12.5±3.5 vs. 10.7±2.4 m/s, p=0.006). Prevalence of endothelial dysfunction and carotid plaques were similar in acute coronary syndrome and ischemic atherothrombotic stroke group (86% vs. 74%, p=NS and 80% vs. 78%, p=NS, respectively).

Conclusion: In stroke patients, aortic stiffness and carotid wall thickness were higher than in acute coronary syndrome patients. These structural and functional differences may have a direct involvement in the occurrence of the event.

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Lower limb ischemia following the use of vascular closure devices: percutaneous management

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Aim: To assess immediate and midterm outcomes of a systematic endovascular approach for the treatment of lower limb ischemia following the use of vascular closure devices (VCD) after percutaneous coronary and peripheral interventional procedures.

Methods: From January 2006 to December 2008, all the patients who developed lower limb ischemia following the use of a VCD in a single high volume French institution were systematically managed percutaneously and constituted the population of this study. Clinical characteristics, immediate and midterm outcomes are reported.

Results: 18 patients (3 males and 15 females) were included. Mean age was 67.1 years. Closure devices were Angio-seal® in 12 cases, Starclose® in 3 cases and Perclose® in 3 cases. On average, lower limb ischemia occurred 6.5 days (range 1-28 days) after device placement. Culprit lesion was located in the left common femoral artery in 6 cases and in the right common femoral artery in 12 cases. Secondary vascular access was obtained through the femoral artery in 12 cases and the contralateral femoral artery in 6 cases. A 90 cm-long 6F Destination® guiding sheath was used in 13 cases and a 6F multipurpose guiding catheter in the remainder. The occlusion site was successfully crossed in all cases using 0.014 inch coronary guidewires in 8 cases and a hydrophilic 0.035 inch Terumo guidewire in 8 cases. 12 patients were treated with balloon angioplasty and 6 with stent implantation. Angiographic success was obtained in all the cases. After a mean 27.3 months follow-up, only two patients initially treated by PTA needed re-intervention (due to symptomatic restenosis ) consisting in a balloon angioplasty in one case and stent implantation in the second case (after respectively 3 and 4 months). At final follow-up, all the patients were asymptomatic.

Conclusion: Endovascular treatment for VCD-related limb ischemia is a feasible and efficient approach resulting in excellent immediate and midterm outcomes.

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Body mass index and autonomic nervous system in hypertensive patients

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Introduction: Heart rate variability (HRV) and heart rate turbulence (HRT) are valuable non invasive methods determining quantitatively the sympathetic and parasympathetic modulations of heart rate. The variation of HRV and HRT may be influenced by clinical parameters.

Aim: The aim of this study is to evaluate the impact of body mass index (BMI) on HRV and HRT in hypertensive patients.

Methods: 85 patients with hypertension (mean age 57±11 years) underwent 24 hour Holter recording. The following HRV parameters were studied: (SDNN, SDNNi, RMSSD), BF, HF and BF/HF. HRT parameters were also analysed (TO and TS). Patients were divided in three groups according to their BMI: group 1: BMI<25 kg/m², group 2: BMI between 25 and 30 kg/m² and group 3: BMI>30 kg/m².

Results: HRV and HRT parameters were comparable in the three groups as presented in the table.