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Background and purpose: Coronary heart disease (CHD) and stroke are the leading causes of death worldwide, although these are preventable diseases. In order to set priorities for public health policies, we sought to assess and compare within a single cohort, CHD and stroke population-attributable risks (PARs) for various cardiovascular risk factors.

Methods: The PRIME study is a multicenter prospective population-based cohort of men living in France or Northern Ireland, aged 50-59 in 1991-93, and followed over 10 years to record CHD (coronary death, myocardial infarction (MI), and unstable angina) and stroke.

Results: The sample comprised 9701 men, free of CHD and stroke at baseline. During the followup, 410 and 118 cases of CHD and stroke occurred. After adjustment for age, centre, antihypertensive and lipid-lowering treatments, alcohol consumption and other significant cardiovascular risk factors, PARs for CHD were 21.1% (high blood pressure), 14.8% (smoking), 11.1% (hypercholesterolemia), 9.8% (low HDL-cholesterol), 5.4% (obesity) and 1.9% (diabetes). The overall PAR for CHD, referring to the presence of at least one of the above detailed risk factors reached 71.2% (79.1% for coronary death and MI). Adjusted PARs for stroke were 32.8% (high blood pressure), 15.9% (smoking) and 6.4% (diabetes), with no significant impact of the other risk factors. The overall PAR for stroke was 43.7% (44.6% for ischemic stroke).

Conclusions: The impact of traditional cardiovascular risk factors on CHD and stroke are different. As prevention should primarily focus on factors exhibiting high PARs for both diseases, high blood pressure and smoking are the best targets.

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Cardiovascular variability and spontaneous baroreflex sensitivity in type 2 diabetes (experience in Moroccan patients)

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Enhanced sympathetic activity is a potential cause of increased risk of cardiovascular complications during treatment in type 2 diabetes. Spectral analysis of heart rate and blood pressure has considerable potential in assessing the role of autonomic nervous system fluctuations in healthy individuals and patients, as well as spontaneous baroreflex sensitivity (SBS) by means of the α index. The aim of the present study was to investigate if type 2 diabetes without diagnosis of autonomic neuropathy is accompanied by alterations in cardiovascular variability and SBS.

Methods: Spectral analysis of RR interval and blood pressure variability were obtained during undisturbed supine rest in 7 healthy control subject (controls) and 7 patients with type 2 diabetes without diagnosis of autonomic neuropathy. The two groups were matched for BMI and age.

Result: type 2 diabetes without diagnosis of autonomic neuropathy had shorter RR interval (804 ± 46 ms) compared with controls (939 ± 37 ms, $p < 0.001$ for both comparisons). In type 2 diabetes without diagnosis of autonomic neuropathy total variance of RR was reduced (493 ± 162 ms, $p < 0.05$) and spectral analysis of RR variability showed an increased low frequency normalized units (75 ± 5 , $p < 0.02$, index of sympathetic modulation) a decreased high frequency normalized units (25 ± 5 , $p < 0.001$, index of vagal modulation) compared with control as well as an increased LF/HF ratio (3.1 ± 0.9 , $p < 0.001$) systolic blood pressure variance in type 2 diabetes without diagnosis of autonomic neuropathy was twofold greater than in controls (31 ± 8 , $p < 0.007$) as well as reduced the LF component (5 ± 0.5 mmHg², $p < 0.0036$). α index was significantly reduced in type 2 diabetes without diagnosis of autonomic compared with controls (5.9 ± 0.4 and 11 ± 2 ms/mmHg respectively, $p < 0.003$)

Conclusion: type 2 diabetes without diagnosis of autonomic neuropathy is characterized by increase in cardiac and vasomotor sympathetic drive. The increased sympathetic activity and decreased of SBS may play an important role in the development of hypertension as well as may represent and increase cardiovascular risk in patients with type 2 diabetes

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Characteristics and outcome of patients hospitalized for lower extremity peripheral artery disease in France and receiving beta-blockers. The COPART registry

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Background: Lower extremity peripheral artery diseases (PAD) is a source of disability and is often associated with other cardiovascular diseases. Although beta-blockers may be required for associated coronary artery disease their use in PAD is still controversial, suspected of worsening the PAD. Our goal was to assess the prescription of beta-blockers at admittance and discharge of patients hospitalized for PAD and to analyze their effect on morbidity and mortality at one year, from the COPART Registry, a prospective multicenter study with patients consecutively recruited from vascular medicine departments of 4 academic hospitals in France between 2006 and 2010.

Methods: COPART registry included patients >18 years, with either intermittent claudication associated with an abnormal ABI, and/or an arterial stenosis >50% or ischaemic rest pain, or ulceration and gangrene or acute lower-limb ischaemia. We compared characteristics and outcome between patients with or without beta-blocker (BB) at admittance and at discharge.

Results: Among the 1267 patients of the COPART registry, 328 (26%) were treated with BB at admittance. History of blood hypertension and acute myocardial infarction (AMI) were independent factors for BB prescription (OR 2.60 and 3.02; $p < 10^{-4}$, respectively). At discharge, only AMI history favored prescription of BB (OR 3.11, $P < 10^{-4}$). History of chronic obstructive pulmonary disease and PAD with ulcer had a negative relationship with prescription of BB at admittance (OR: 0.57 and 0.55; $p < 0.05$, respectively) and discharge (OR: 0.57 and 0.64; $p < 0.05$, respectively). 1-year-mortality of patients with BB did not differ from those without (22.7% vs 22.5%; $p = 0.954$; OR 1.08 95%CI [0.77-1.5]). Concerning the 1-year-amputation rate no difference was found neither: 4.0% of patients with BB vs 6.2% without ($p = 0.142$) OR 0.63 95%CI [0.33-1.19].

Conclusion: Patients hospitalized for PAD can safely carry on with their BB treatment with no increase of 1-year-mortality nor 1-year-amputation rate. Base on these safety data prospective study should be conducted to assess the effect of BB on long-term mortality in PAD

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Contributions of transcutaneous oxygen pressure at exercise in evaluating buttocks and calf intermittent claudication related to peripheral arterial disease: comparison with ankle-brachial index.

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Objective: Measurement of post exercise ankle-brachial index (ABI), diagnostic reference method of intermittent claudication related to peripheral arterial disease (PAD), has limitations. This study aims to compare transcutaneous oxygen pressure (TCPO₂) to ABI in the etiologic diagnosis of intermittent claudication.

Methods: A prospective inclusion of 15 patients, with symptoms of intermittent claudication, carrying at least one arterial lesion on CT (>50%) of the

iliac arteries, femoral, popliteal arteries or legs, have been a measurement of ABI and TCPO2, during treadmill test, in the buttock and calf, before and after angioplasty. A drop in ABI > 20% and a decrease in TCPO2 with respect to the rest stored to changes in the thorax (Delta from Rest Oxygen Pressure or DROP), < -15 mm Hg, defined the cut-off points.

Results: DROP showed a sensitivity 86%, a specificity 81%, with a significant correlation to the fall of ABI ($r=0,5187$, $p=0,001$). ABI and TCPO2 were significantly related to the presence of intermittent claudication, respectively $40\pm 4\%$ vs $18\pm 4\%$ ($p<0,001$) and -30 ± 2 mm Hg vs -10 ± 1 mm Hg ($p<0,001$). Unlike ABI, the normalization of TCPO2 after revascularization were significantly bound to the improvement of clinical (-31 ± 3 mm Hg vs -8 ± 1 mm Hg, $p<0,001$). After revascularization, post stress ABI, TCPO2 in the calf and buttock were significantly improved ($0,21\pm 0,34$ $p=0,03$, 12 ± 11 mm Hg $p<0,001$, 28 ± 19 mm Hg $p=0,001$) and without treatment, the results were not significantly different ($0,04\pm 0,19$ $p=0,63$, 8 ± 13 mm Hg $p=0,14$, 5 ± 11 mm Hg $p=0,14$).

Conclusion: DROP and ABI fall, at exercise, in patients related intermittent claudication, are correlated, reproducible and effective in the diagnosis of PAD. Exercise TCPO2 presents a better association with the clinic and allows exploration of the proximal ischemia, not with ABI. TCPO2, during treadmill test, seems to be interesting in the exploration of intermittent claudication.

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Characteristics and outcome of patients over 75 years old hospitalized for lower extremity peripheral artery disease in France. The COPART registry

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Background: Lower extremity peripheral artery diseases (PAD) prevalence and severity increase with age. However few data on elderly patients hospitalized for PAD are available. We aim to assess characteristics and outcome of ≥ 75 -year-old patients hospitalized for PAD

Methods: Characteristics and outcome comparisons between <75 & ≥ 75 -year-old Patients from the COPART Registry, a prospective (2006-2010) study from 4 french academic hospital vascular medicine units with patients consecutively recruited >18 years, with either intermittent claudication associated with an abnormal ABI, and/or an arterial stenosis >50% or ischaemic rest pain, or ulceration and gangrene or acute lower-limb ischaemia. * $p<0,05$

Results: 546/1,241 (44%) patients were ≥ 75 . Hyperlipemia (43 vs 62%,*) or active tobacco addiction (50 vs 84%,*) were lower but no difference for high blood pressure or diabetes. They suffered less of AMI (17 vs 24%,*) or COPD (12 vs 16%,*), but more of heart failure (17 vs 9%, $p<0,05$) or AF (32 vs 11%, $p<0,05$). PAD were more severe, more arterial ulcers (54 vs 39%,*), ischaemic rest pain (24 vs 35%,*), less intermittent claudication (11 vs 37%,*) but same rate of acute limb ischaemia. Despite same diabetes rate we found more isolated distal lesion (79 vs 52%,*). More minor amputations were performed (11 vs 7%,*) and less bypass surgeries (9 vs 15%,*) but similar rate of angioplasty or major amputation. Cardiovascular treatments differed for VKA (20 vs 13%,*) and betablockers (22 vs 31%,*). Intra-hospital & 1-year mortalities were higher (6.8 vs 2.9%,* and 35.3 vs 13.8%,*) respectively.

Conclusion: Patients ≥ 75 -year-old hospitalized for PAD had poor short & long-term outcome. Clinical presentation was more advanced with predominant under-knee artery lesions. Along with higher cardioembolism risk (AF and heart failure) that could explain the low rate of bypass and higher amputation. This result confirms the need to detect PAD in elderly at earlier stage to improve their actual very bad outcome.

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Specific characteristic of acute upper limb arterial ischemia: analysis of a 114 patients cohort

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Background: Acute upper limb arterial occlusion is an uncommon condition in peripheral arterial disease. Only small series or case reports can be found from a review of the literature. We aimed to characterize the clinical background and etiologies from these patients seen in our institution.

Methods: 114 consecutive patients hospitalized in our vascular medicine unit were identified from electronic database (using ICD10 code I.742) since 2000. Diagnosis was established by 2 independent observers based on the review of each medical report and examinations performed.

Results: Mean age was 56.2 ± 17.4 with 52.6% males. The main cardiovascular (CV) risk factor was smoking (56%) then hypertension (46%) and hypercholesterolemia (37%). Only 15% had family history of CV disease, and 10% diabetes. The leading cause was professional disease or Hammer Syndrome (13%) then cardioembolism (12%) (AF, flutter, intraventricular thrombus and atherosclerotic plaque embolism sub-clavian stenosis most oftenly), iatrogenic disease (11%) (intraarterial drug infusion, chemotherapy, radiotherapy), Thromboangiitis obliterans (9%), connective tissue diseases (systemic sclerosis, rheumatoid arthritis) 7%, malignancy (myeloproliferative disorders, solid neoplasia) 7%, thoracic outlet syndrome 5%, thrombophilia 5%, large vessels vasculitis (Takayasu, Giant cell disease) 3% along with paradoxical embolism 3%. 13% had no etiology although a 3 years follow-up and wide explorations

Conclusion: We reported here one of the widest cohort of acute upper limb arterial occlusion. Our results suggest that the occurrence of an upper limb arterial occlusion should lead to a very exhaustive investigations, as the distribution of the aetiologies completely differs from those found in lower limb. Hammer syndrome and cardioembolism are the most prevalent causes before atherosclerosis. Iatrogenic disease should not be ignored including drug adverse event, or intraarterial infusion. Unfortunately, 1 of 7 patients remains idiopathic.

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Opportunistic screening of abdominal aortic aneurysm during hospitalization: the OSCAAAR (Opportunistic Screening of Abdominal Aortic Aneurysm) study.

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Background: Population screening of abdominal aorta aneurysm (AAA) is recommended in many countries including France, based on several trials which have demonstrated the benefits of AAA screening, especially in men. However, such a screening program is not yet well implanted in our country. An opportunistic screening of AAA during any medical contact may be an alternative in the absence of a systematic approach. We hypothesized that AAA screening during hospitalization could be effective. We aimed to assess the prevalence of AAA in patients at risk who are hospitalized for any non-cardiovascular condition in our hospital.

Methods: From February 2011 to June 2012, a total of 394 men and 109 women randomly selected accepted AAA screening by ultrasound. An AAA was defined as an infra-renal aortic anterior-posterior diameter ≥ 30 mm. After analysis of the first 250 patients, screening was limited to men ≥ 65 years old, since neither younger nor female patients presented an AAA.

Results: Among the 503 patients (mean age 71.2 ± 5.4 years) we detected an AAA in 20 cases (4%). The prevalence reached 5.5% in men ≥ 65 years old.

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