

TOP Journal Club

Vol: 7 No: 12 December 2004

Peripheral arterial disease, diabetes, and mortality.

OBJECTIVE: The aims of this study were to provide estimates of 1) the risk of mortality for individuals with both diabetes and peripheral arterial disease (PAD) relative to that for individuals with either condition alone and 2) the association between PAD progression and mortality for individuals with diabetes, PAD, and both conditions. **RESEARCH DESIGN AND METHODS:** This longitudinal cohort study was conducted in Rochester, Minnesota. Local residents age 50-70 years with a prior diagnosis of PAD and/or diabetes were identified from the Mayo Clinic diagnostic registry and invited to a baseline examination (1977-1978). Those who met inclusion criteria were assessed for PAD progression at 2 and 4 years and followed for vital status through 31 December 1999. **RESULTS:** The numbers who met criteria for PAD, diabetes, and both conditions at baseline were 149, 238, and 186, respectively. Within each group, observed survival was less than expected ($P < 0.001$). The adjusted risk of death for both conditions was 2.2 times that for PAD alone. Among the 449 who returned at 4 years, the risk of subsequent death was greater for those whose PAD had progressed; among individuals with diabetes alone at baseline, 100% (17 of 17) who met criteria for PAD progression were dead by 31 December 1999 compared with 62% (111 of 178) of those who had not met criteria (adjusted relative hazard 2.29 [95% CI 1.30-4.02], $P = 0.004$). The increased mortality associated with PAD progression was significant only for individuals with diabetes (alone or with PAD). **CONCLUSIONS:** Diabetes is a risk factor for both PAD and PAD-associated mortality, emphasizing the critical need to detect and monitor PAD in diabetic patients.

Diabetes Care. 2004 Dec;27(12):2843-9.

Atherothrombotic risk factor clustering in healthy male relatives of male patients with intermittent claudication.

OBJECTIVE: Family history is an independent risk factor for premature acute myocardial infarction; in contrast, familial risk for peripheral

arterial disease (PAD) has yet to be determined. Elevated levels of hemostatic proteins are consistently predictive for cardiovascular risk in "healthy" subjects, and may cluster with underlying insulin resistance. Atherothrombotic risk factor clustering occurs in first-degree relatives of subjects with coronary artery disease and type 2 diabetes. These may contribute to the enhanced cardiovascular risk in these subjects, and we hypothesised that familial clustering may occur in PAD. The objective of this study was to measure atherothrombotic risk factors in healthy male first-degree relatives of men with intermittent claudication, with emphasis on thrombotic risk. **METHODS:** One hundred sixty-five healthy male first-degree relatives were compared with control subjects matched for age, sex, and race ($n = 165$), free from a personal or family history of premature cardiovascular disease. Primary outcome measures were fibrinogen, von Willebrand factor, factor VII clotting activity (FVII:C), and factor XIII levels. Atherosclerotic risk factors were measured, and subjects were genotyped for common functional polymorphisms (factor VII r353q and fibrinogen B beta-455). **RESULTS:** Relatives had higher mean levels of fibrinogen (3.04 vs 2.89 g/L; $P = .021$), FVII:C (117% vs 104%; $P = .000$), factor XIII B subunit (1.11 vs 1.01 IU/mL; $P = .000$), and complex (A 2 B 2 ; 1.18 vs 1.11 IU/mL; $P = .021$). At multivariate analysis the association between relative status and fibrinogen, FVII:C, and factor XIII B subunit levels were independent of other variables. **CONCLUSIONS:** The healthy male relatives of men with PAD have elevated levels of fibrinogen, factor VII, and factor XIII. Our results support the existence of thrombotic risk factor clustering in this population at "high risk."

J Vasc Surg. 2004 Nov;40(5):891-8.

Classic intermittent claudication is an uncommon manifestation of lower extremity peripheral arterial disease in hospitalized patients with coronary artery disease.

Synchronous peripheral arterial disease (PAD) and coronary artery disease (CAD) is common. Standardized questionnaires such as the Rose/WHO questionnaire and later the Edinburgh modification of this questionnaire were developed to screen for PAD. Little data are available on the sensitivity of these questionnaires in hospitalized

patients with CAD. The aim of this study was to determine the accuracy of these questionnaires and the prevalence of classic intermittent claudication in hospitalized patients with CAD. Medically stable patients with CAD were invited to participate before hospital discharge. The patients answered both the Rose/WHO and Edinburgh modification claudication questionnaires and had an ankle-brachial index (ABI) measured. An ABI less than or equal to 0.9 was considered to be indicative of significant PAD. Patients who had undergone previous lower extremity revascularization for PAD and had a corrected ABI greater than 0.9 were excluded. Ninety-five patients (66 men) were recruited. By measuring the ABI, 35 patients (25 men) were found to have significant PAD. An additional 3 patients who had an ABI corrected by lower extremity revascularization were excluded from the analysis. Despite the high incidence of synchronous PAD in hospitalized patients with CAD, traditional claudication questionnaires are insensitive to PAD detection. Classic claudication is an uncommon manifestation of PAD in hospitalized patients with CAD.

Angiology. 2004 Nov-Dec;55(6):625-8

Clinical practice of nutrition in acute liver failure--a European survey.

BACKGROUND: Evidence-based guidelines for artificial nutrition in hyperacute (HLF), acute (ALF) and subacute liver failure (SLF) cannot be given at present due to scarcity of clinical studies. **METHODS:** Current nutritional practice was surveyed using a questionnaire which was answered by 33 hepatology units (2-170 cases/year) in 11 European countries. **RESULTS:** All units used specific nutrition support regimes in liver failure patients. Eight units (385 patients/year) preferentially used tube-feeding with standard diets, 25 units (377 patients/year) used parenteral nutrition (PN). For PN glucose was infused at 4.0 g/kg d (median; range 0.6-10.0). Intravenous fat was given only by some units: (18/33) in HLF at 0.9 g/kg d (0.3-2.0), (21/33) in ALF at 1.0 g/kg d (0.3-2.0), and (23/33) in SLF at 1.0 g/kg d (0.3-3.0). Amino acid solutions, predominantly enriched in branched-chain amino acids, were used in HLF (19/33 units) and in ALF (23/33) at 0.9 g/kg d (0.5-1.5) and in SLF (24/33) at 1.0 g/kg d (0.7-1.5). **CONCLUSION:** Hepatology units use a

considerable variety of specific nutrition support strategies in liver failure. About 50% of patients receive enteral nutrition. Dosage and monitoring of PN is similar to other critical illness with a wide variety of infusion rates and accepted ranges of substrate plasma concentrations.

Clin Nutr. 2004 Oct;23(5):975-82

Blood Glucose and Risk of Cardiovascular Disease in the Asia Pacific Region.

OBJECTIVE: To assess the shape and strength of the association between usual blood glucose and cardiovascular disease (CVD) in Asian and Australasian cohorts and to determine the impact of adjusting for other determinants of CVD risk and excluding people with diabetes. **RESEARCH DESIGN AND METHODS:** Repeat measurements of blood glucose were used to adjust for regression dilution bias. **RESULTS:** Fasting blood glucose data were available for 237,468 participants, and during approximately 1.2 million person-years of follow-up, there were 1,661 stroke and 816 ischemic heart disease (IHD) events. Data were also available on 27,996 participants with nonfasting glucose measurements. Continuous positive associations were demonstrated between usual fasting glucose and the risks of CVD down to at least 4.9 mmol/l. Overall, each 1 mmol/l lower usual fasting glucose was associated with a 21% (95% CI 18-24%) lower risk of total stroke and a 23% (19-27%) lower risk of total IHD. The associations were similar in men and women, across age-groups, and in Asian compared with Australasian (Australia and New Zealand) populations. Adjusting for potential confounders or removing those with diabetes as baseline did not substantially affect the associations. Associations for nonfasting glucose were weaker than those with fasting glucose. **CONCLUSIONS:** Fasting blood glucose is an important determinant of CVD burden, with considerable potential benefit of usual blood glucose lowering down to levels of at least 4.9 mmol/l.

Diabetes Care. 2004 Dec;27(12):2836-2842

<http://www.thai-otsuka.co.th/pxnews/index.html> Opinions and suggestions are welcomed Dr. Shwe Win, shwewin@thai-otsuka.co.th