

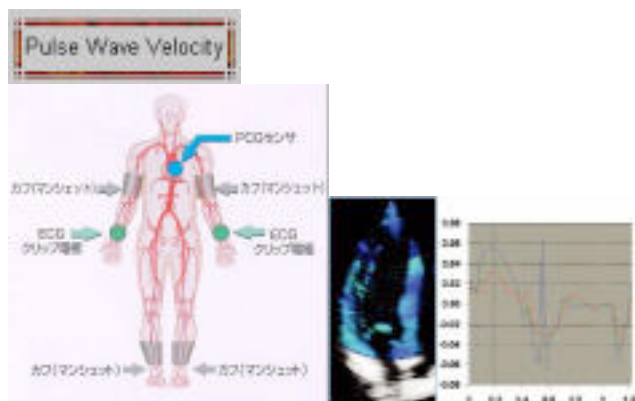
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The case for early detection and integrated intervention in patients with peripheral arterial disease and intermittent claudication.

Reference: J Endovasc Ther. 2003 May-Jun;10(3):601-13.

Peripheral arterial disease (PAD) is defined as atherosclerotic disease of the aorta and arteries of the lower extremities. The most frequent manifestations of ischemia occur in the lower extremity arteries, with intermittent claudication as the most common symptom. Intermittent claudication, which is characterized by temporary pain brought on by muscle exertion, is usually experienced in the calf muscles and typically subsides with rest. The atherosclerotic nature of PAD/intermittent claudication makes it an important predictor of risk for cardio- and cerebrovascular disease, as well as limb loss. Thus, active screening and early diagnosis of PAD/intermittent claudication, in addition to aggressive management that incorporates risk factor modification, exercise therapy, platelet inhibition and other appropriate pharmacotherapy, and potential lifestyle changes, play important roles in overall patient management. Pharmacotherapy with cilostazol has been shown to improve maximal and pain-free walking distances. Uncontrolled and severely debilitating intermittent claudication may require revascularization.



The aging of elastic and muscular arteries: a comparison of diabetic and nondiabetic subjects.

Reference: Diabetes Care. 2003 Jul;26(7):2133-8.

OBJECTIVE: To compare age-related changes in the mechanical properties of different arterial segments in normal volunteers and subjects with type 2 diabetes. **RESEARCH DESIGN AND METHODS:** In 169 subjects (diabetic $n = 57$ and nondiabetic $n = 112$), we assessed the mechanical properties of three arterial segments of differing wall composition. Pulse wave velocity (PWV) was measured noninvasively in a thoraco-abdominal segment (carotid femoral PWV [PWV(cf)]), in an upper limb muscular artery (carotid radial PWV [PWV(cr)]), and from the aorta to the finger (PWV from the aorta to the finger [PWV(fin)]). Central aortic compliance (CAC) was also measured. **RESULTS:** Average CAC was lower (0.662 vs. 0.850, $P < 0.05$) and all measures of PWV tended to be faster in diabetic subjects despite the fact that they were, on average, 10 years younger. However, these measures were not related to age in diabetic subjects. After correcting for blood pressure, only PWV(cf) was associated with age in nondiabetic subjects ($P < 0.001$). Expressing results as ratios of nonelastic to elastic arterial segments (i.e., PWV(cr)-to-PWV(cf) and PWV(fin)-to-PWV(cf)) improved the relationship with age. Both PWV(cr)-to-PWV(cf) and PWV(fin)-to-PWV(cf) were significantly associated with age in nondiabetic subjects ($r = -0.59$, $P < 0.001$; $r = -0.57$, $P < 0.001$) but not in diabetic subjects ($r = -0.15$, $P = 0.302$; $r = -0.24$, $P = 0.129$). Multivariate analysis showed that the ratios were not associated with systolic blood pressure. **CONCLUSIONS:** There are significant differences in the rate of age-related decline in vascular stiffness in elastic arteries of nondiabetic compared with diabetic arteries. Diabetic arteries appear to age at an accelerated rate at an earlier age and then reach a functional plateau.

Utility of automated brachial ankle pulse wave velocity measurements in hypertensive patients.

Reference: Am J Hypertens. 2003 Aug;16(8):653-7.

BACKGROUND: We examined whether pulse wave velocity (PWV), determined by brachial ankle arterial pressure wave measurements, using a newly developed, fully automated device could be a surrogate measure for carotid femoral PWV. **METHODS & RESULTS:** This device (AT-form PWV/ABI, Nippon Colin, Komaki, Japan) can simultaneously monitor bilateral brachial and ankle pressure wave forms using the volume plethysmographic method, with two optional tonometry sensors for carotid and femoral arterial wave measurements. We examined the right brachial-right ankle PWV and left carotid-left femoral PWV in 89 normotensive and untreated hypertensive patients. The brachial ankle PWV correlated well with carotid femoral PWV ($r = 0.755$, $P < .00001$). The Bland-Altman plots of the two variables, however, showed a significant difference exists between the two techniques over the range of measurement. The within-observer and between-observer coefficients of variation of the brachial ankle PWV were $6.5\% \pm 4.1\%$ and $3.6\% \pm 3.9\%$, respectively. To determine the factors affecting brachial ankle PWV, we studied treated and untreated hypertensive patients with World Health Organization stage I ($n = 146$), stage II ($n = 74$), or stage III ($n = 54$). In multiple regression analysis, age, brachial ankle PWV, and the presence of diabetes were significant predictors of the severity of hypertensive organ damage. Age, systolic blood pressure, and the stage of hypertensive organ damage were major determinants of brachial ankle PWV. **CONCLUSIONS:** Although the brachial ankle PWV does not agree with the carotid femoral PWV, this parameter may yet become a new, useful measure for arterial stiffness. Further longitudinal studies are necessary to confirm the clinical significance of the brachial ankle PWV.

Memory function in early hepatic encephalopathy

Reference: J Hepatology 2003;39(3):320-325.

Background: Early hepatic encephalopathy (HE) is characterized by deficits in motor performance, visual perception, visuo-constructive abilities and attention. Whether defective memory is a feature of early HE is controversial.

Aims: To analyze memory function in patients with early HE.

Methods: Memory tests were applied to cirrhotic patients with grade 0 HE, minimal HE and grade I HE ($n=45$) and controls ($n=52$). The battery included short and long term memory tests requiring free recall or recognition. Minimal HE was diagnosed by assessing the psychometric hepatic encephalopathy score using the PSE-Syndrom-Test and by carrying out a neurological examination. Group differences of the test results were analyzed using analysis of covariance.

Results: HE 0 patients achieved test results similar to the controls in all but two tests. Patients with early HE (minimal and grade I HE) scored lower than the controls in all tests applied. A detailed analysis of test performance showed that the patients' deficits were in attention and visual perception, rather than memory.

Conclusions: Patients with early HE score lower than controls in memory tasks predominantly because of deficits in attention and visual perception.



Effects of rebamipide, a gastro-protective drug on the Helicobacter pylori status and inflammation in the gastric mucosa of patients with gastric ulcer: a randomized double-blind placebo-controlled multicentre trial.

Reference: Aliment Pharmacol Ther. 2003 Jul;18 Suppl 1:146-52.

AIMS: To investigate the effects of rebamipide on the Helicobacter pylori eradication rate with amoxicillin and omeprazole. The trial also examined its histological effects on gastro-mucosal inflammation after eradication.

METHODS: Two hundred and six H. pylori-positive patients with active gastric ulcer underwent 8-week based therapy (OA) consisting of 2-week amoxicillin with omeprazole and subsequent 6-week omeprazole. They randomly received either rebamipide (OA-R) or placebo (OA-P) for 16 weeks: combined with the OA based therapy, and subsequently for another 8 weeks. Besides eradication rate, inflammatory findings of gastric mucosa after eradication were evaluated histologically.

RESULTS: Per Protocol Set analysis showed no significant difference in eradication rate between OA-R (64.6%; 95% confidence interval, 54.3-75.0%) and OA-P (67.9%; 95% CI, 57.6-78.3%). Histological findings in the gastric mucosa of the ulcer region, however, indicated a significant improvement ($P = 0.017$) in inflammation scores in OA-R (1.84 \pm 0.41) compared with that in OA-P (2.02 \pm 0.39) after 16-weeks of treatment. This suppressive effect on inflammation was observed even in the OA-R patients unsuccessfully eradicated.

CONCLUSION: Rebamipide demonstrated a suppressive effect on the persistent and possibly chronic inflammation in the gastric mucosa of the ulcer region after eradication, but the drug did not improve the eradication rate.

Review article: clinical significance of mucosal-protective agents: acid, inflammation, carcinogenesis and rebamipide.

Reference: Aliment Pharmacol Ther. 2003 Jul;18 Suppl 1:153-9.

While a great deal of clinical evidence has been found regarding anti-acids for the treatment of gastric disorders including peptic ulcers, not all disorders can be explained only by the hyperfunction of acid secretion. Especially in the Asian region, glandular atrophy is more prominent than in Western countries, therefore low acid output is often observed in these patients. Improvement of mucosal protection is rational therapy for these patients; this is the reason for use of these agents in Asian countries. Rebamipide has many biological activities for gastric mucosa such as increasing the blood flow and biosynthesis prostaglandins and the decrease of oxygen radicals. These suggest the possible efficacy of rebamipide in the prevention of both Helicobacter pylori-related and nonsteroidal anti-inflammatory drug (NSAID)-induced gastric injury, which has been proved by human studies. Rebamipide is the only mucosal-protective drug which can improve the histological gastritis in vivo, whereas anti-acids have a lesser effect in influencing gastritis. Improvement of gastritis is expressed not only in quantity but also in quality of gastritis, which is shown as the reduction of iNOS expression in the gastric mucosa. Clinically, it is suggested that rebamipide has the potential to prevent gastric carcinogenesis by improvement of histological gastritis.



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