TOP Journal Club
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Effects of cilostazol on serum lipid concentrations and plasma fatty acid composition in type 2 diabetic patients with peripheral vascular disease.

Reference: Clin Exp Med 2003;2(4):180-4.

Cilostazol is an anti-thrombotic and vasodilating agent, reported to have both anti-thrombotic and cerebral vasodilating effects. We investigated the effects of cilostazol on serum lipid concentrations and plasma fatty acid composition in type 2 diabetic patients with peripheral vascular disease. The serum concentrations of total cholesterol, triglycerides, high-density lipoprotein-cholesterol, lipoprotein (a), remnant-like particles-cholesterol, apolipoproteins, and plasma fatty acid composition were measured in 17 diabetic patients with peripheral vascular disease before and 1, 3, and 6 months after administration of cilostazol (200 mg/day). Serum triglyceride concentrations were significantly decreased after cilostazol (from 1.31+/-0.17 mmol/l to 0.86+/-0.07 mmol/l at 6 months, P<0.01). Plasma docosahexaenoic acid levels were significantly increased after cilostazol (4.11+/-0.26% to 4.94+/-0.26% at 6 months, P<0.01). Our findings show that cilostazol can induce some beneficial changes in serum lipid profile and plasma fatty acid composition.

Comparison of the effects of cilostazol and milrinone on cAMP-PDE activity, intracellular cAMP and calcium in the heart.

Reference: Cardiovasc Drugs Ther 2002;16(5):417-27

We investigated the basis for the difference in the cardiotonic effects of the PDE3 inhibitors cilostazol and milrinone in the rabbit heart. Cilostazol displayed greater selectivity than milrinone for inhibition of cAMP-PDE activity in microsomal vs cytosolic fractions from rabbit heart. This difference was due to the inhibition of significantly less cytosolic cAMP-PDE activity by cilostazol compared to milrinone. A combination of cilostazol (>15 microM) and the PDE4 selective inhibitor, rolipram (5 microM), inhibited levels of cytosolic cAMP-PDE activity similar to those inhibited by milrinone on its own. This suggested that milrinone inhibited PDE4 in addition to PDE3 activity. In isolated rabbit cardiomyocytes, milrinone (>10 microM) caused greater elevations in intracellular cAMP and calcium than cilostazol. In the presence of rolipram, however, the cAMP and calcium elevating effects of cilostazol and milrinone were similar.Therefore, in rabbit heart, partial inhibition of PDE4 by milrinone contributed to greater increases in cardiomyocyte cAMP and calcium levels than cilostazol. PDE4 activity in failing human heart was lower than in rabbit heart and there was no significant difference in the inhibition of human cytosolic cAMP-PDE by cilostazol and milrinone. Our results suggest that in normal rabbit heart inhibition of PDE4 by milrinone may partly contribute to the greater cardiotonic effect of milrinone when compared to cilostazol. However, the lower level of PDE4 activity in failing human heart suggests that factors other than inhibition of PDE4 by milrinone may contribute to differences in cardiotonic action when compared to cilostazol.

World J Gastroenterol 2003 Mar;9(3):599-602

The effects of the formula of amino acids enriched BCAA on nutritional support in traumatic patients.

Reference: World J Gastroenterol 2003;9(3):599-602.

AIM: To investigate the formula of amino acid enriched BCAA on nutritional support in traumatic patients after operation.
METHODS: 40 adult patients after moderate or large abdominal operations were enrolled in a prospective, randomly and single-blind-controlled study, and received total parenteral nutrition (TPN) with either formula of amino acid (AA group, 20 cases) or formula of amino acid enriched BCAA (BCAA group, 20 cases). From the second day after operation, total parenteral nutrition was infused to the patients in both groups with equal calorie and equal nitrogen by central or peripheral vein during more than 12 hours per day for 6 days. Meanwhile, nitrogen balance was assayed by collecting 24 hours urine for 6 days. The markers of protein metabolism were investigated such as amino acid patterns, levels of total protein, albumin, prealbumin, transferrin and fibronectin in serum.
RESULTS: The positive nitrogen balance in BCAA group occurred two days earlier than that in AA group. The serum levels of total protein and albumin in BCAA group were increased more obviously than that in AA group. The concentration of valine was notably increased and

the concentration of arginine was markedly decreased in BCAA group after the formula of amino acids enriched BCAA transfusion.
CONCLUSION: The formula of amino acid enriched BCAA may normalize the levels of serum amino acids, reduce the proteolysis, increase the synthesis of protein, improve the nutritional status of traumatic patients after operation.

Development of New Peripheral Arterial Occlusive Disease in Patients With Type 2 Diabetes During a Mean Follow-Up of 11 Years

Reference: Diabetes Care 2003;26:1241-45.

OBJECTIVE— To assess the occurrence and development of new peripheral arterial occlusive disease (PAOD), its risk factors, and the outcome in patients with type 2 diabetes.

RESEARCH DESIGN AND METHODS— A total of 130 type 2 diabetic patients (mean age 58 years) were examined at baseline and after a mean follow-up of 11 years (range 7–14). The ankle-brachial index (ABI) and toe-brachial index were used to detect PAOD. Blood and urine samples were taken at baseline, and a history of cardiovascular events was recorded during follow-up.

RESULTS— PAOD was diagnosed in 21 (16%) patients at baseline. During follow-up, 21 of 89 (24%) patients developed new PAOD. There were 29 patients who died, 21 (72%) of them from cardiovascular disease. Patients with PAOD suffered an excess mortality compared with patients without PAOD (58 vs. 16%; $P < 0.001$). Logistic regression analysis showed that PAOD at baseline was associated with age, duration of diabetes, smoking, and urinary albumin excretion rate. Patients who developed new PAOD during follow-up had higher serum LDL cholesterol concentrations and lower HDL cholesterol concentrations and were older than the patients who remained free of PAOD.

CONCLUSIONS— Objectively measured PAOD is frequent in type 2 diabetic patients. It presents the early clinical signs of atherosclerosis and is strongly associated with cardiovascular death. The risk factor pattern for PAOD was different at baseline and after a mean follow-up of 11 years. We consider routine ABI measurements and modification of risk factors necessary also in patients with asymptomatic PAOD.

CDC RECOMMENDATIONS ON SARS

What has CDC recommended to prevent transmission of SARS in households?

The basic precautions outlined in this document include the following:

- Infection control precautions should be continued for SARS patients for 10 days after respiratory symptoms and fever are gone. SARS patients should limit interactions outside the home and should not go to work, school, out-of-home day care, or other public areas during the 10-day period.
- During this 10-day period, all members of the household with a SARS patient should carefully follow recommendations for hand hygiene, such as frequent hand washing or the use of alcohol-based hand rubs.
- Each patient with SARS should cover his or her mouth and nose with a tissue before sneezing or coughing. If possible, a person recovering from SARS should wear a surgical mask during close contact with uninfected persons. If the patient is unable to wear a surgical mask, other people in the home should wear one when in close contact with the patient.
- Disposable gloves should be considered for any contact with body fluids from a SARS patient. However, immediately after activities involving contact with body fluids, gloves should be removed and discarded, and hands should be washed. Gloves should not be washed or reused, and are not intended to replace proper hand hygiene.
- SARS patients should avoid sharing eating utensils, towels, and bedding with other members of the household, although these items can be used by others after routine cleaning, such as washing or laundering with soap and hot water.
- Common household cleaners are sufficient for disinfecting toilets, sinks, and other surfaces touched by patients with SARS, but the cleaners must be used frequently.
- Other members of the household need not restrict their outside activities unless they develop symptoms of SARS, such as a fever or respiratory illness.

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