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Nitric oxide (NO) has been reported to play an important role as an effector molecule in cytokine signal transduction in cardiomyocytes. The treatment of IL-1b/ TNF-a (2 ng/ml)/ IFN-g (50 U/ml) induced apoptosis in neonatal rat ventricular cardiomyocytes via NO-dependent pathway. When cardiomyocytes were treated with IL-1b (20 ng/ml)/TNF-a (2 ng/ml)/ IFN-g(50 U/ml) in the presence of catalase, the cells were much more resistant to the cell death as well as NO synthesis. However, catalase significantly enhanced the expression of iNOS protein in cardiomyocytes. This study also showed that catalase rather stimulates the NF-kB binding affinity. However, NO synthase activity is abolished by exogenous catalase, suggesting that H_2O_2 be involved in NO synthesis in a post-translation state. Catalase-induced inhibition of NO was partially but significantly reversed by H_4B, an important cofactor of NO synthesis. In addition, catalase activity was significantly down-regulated by H_4B in a dose-dependent manner. These results suggest that catalase may interfere with the production of NO and with the related apoptosis of cardiomyocytes. This study also shows that catalase-induced inhibition on NO release may be reversed by H_4B by direct interaction between catalase and H_4B.

[PA1-18] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Antihypertensives affects on the drug metabolism of buprenorphine

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Buprenorphine(BPN) is used to treat withdrawal syndromes in narcotic addictions. When narcotics are stopped, withdrawal syndromes such as pupil dilation and blood pressure increment are appeared. And BPN is often prescribed concomitantly with antihypertensives. We researched whether combined medicines of BPN and antihypertensives affected on the metabolism of BPN. After BPN was incubated with antihypertensives such as nifedipine, verapamil, captopril and propranolol in rat or human microsomes, amounts of BPN and its metabolite, norbuprenorphine (NBPN), were measured. NBPN was decreased dose-dependently to 60.5, 51.9, 40.3, 21.6, 12.9% in humans and to 39.5, 28.6, 23.5, 13.1, 6.2% in rats, when the nifedipine was treated with concentrations of 0, 40, 80, 160, 320M. It was also decreased dose-dependently to 72.8, 39.3, 33.9, 30.7, 26.8, 19.3% in humans and to 44, 26.7, 21.5, 18.9, 13, 6.2% in rats, when the verapamil was treated with concentrations of 0, 0.16, 0.32, 0.64, 1.28, 2.56mM. However the captopril and the propranolol had no effects. It showed that calcium channel antagonists such as nifedipine and verapamil suppressed the metabolism of BPN

[PA1-19] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Anti-stress effect of Choa pyroligneous liquid in SD rats.

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Pyroligneous liquid is produced by process carbonizing Oak in 350~400℃. There are 200 kinds of constituents including minerals, vitamin B-complex and organic acids in it. The organic acids of them were presumed as active materials. It is traditionally used for treatment of stress related disorder, hepatic disease, immune disorder, G-I disorder and inflammatory disease. The aim of this study was to investigate anti-stress effects of Pyroligneous liquid(Pyroligneous liquid produced from Choa company). The experiments were performed with the use of young(8 weeks of age) male rats of SD strain weighing between 180 and 220 g at the time of first treatment with Pyroligneous liquid. They were grouped normal, control, Ginseng, diazepam and Pyroligneous liquid group. The normal ones were provide normal water and not exposed to stress. The control ones were provide normal water and exposed to stress. Ginseng, diazepam and Pyroligneous liquid were orally administered Ginseng extract 50㎎/㎏, diazepam 0.5 ㎎/㎏ and Pyroligneous liquid 2㎖/㎏ once a day for 12