P-7 Effects of Nitric Oxide on Hepatotoxicity Induced by Acetaminophen

Chang Won Park*, Jeong Goo Kim, Hwa Hwey Moon, Hyang Woo Lee[1] and Dae Hyun Cho

Department of Toxicology, Korea Food & Drug Administration. 122-020, 5 Nok-bundong, Eunpyong-ku, Seoul. College of Pharmacy, Sung Kyun Kwan Univ.[1]

Nitric oxide(NO) is a readily diffusible, short-lived free radical with a multitude of organ-specific regulatory functions. However, while NO can regulate a number of hepatocyte functions, it is unknown whether nitric oxide production in liver is related to hepatotoxicity. Using isolated SD rat hepatocytes in primary culture, we investigated the effect of endogenously (endotoxin and cytokines) and exogenously(NO donor, S-nitroso-N-acetyl-DL-penicillamine) synthesized nitric oxide on hepatotoxicants-induced hepatocellular injury. To observe whether nitric oxide production in liver is related to hepatotoxicity *in vivo,* we also observed the indicative constituents(ALT, AST), the level of NO in serum of ICR mice administered acetaminophen(340mg/kg, P.O), lipopolysaccharide (NOS inducer ; 120㎍/mouse, I.P) and N^G-monomethyl-L-arginine(NOS inhibitor ; 5㎎ /mouse, I.V). We observed the serum level of indicative constituents(ALT, AST etc) *in vivo* experiment, and LDH leakage and MTT assay *in vitro* experiment to estimate the degree of hepatotoxicity. In our *in vitro* and *in vivo* experiment we suggested that inhibition of endogenously and exogenously synthesized nitric oxide potenciated hepatotoxicity induced by hepatotoxicants in low level of NO. We suggested that NO has hepatoprotective effect in hepatotoxicity induced by acetaminophen.

구두발표 ( ), 포스터 발표 (o)

(책임 연구자)

성명 : 조대현

주소 : 서울시 은평구 녹번동 5번지

전화번호 : 380-1774

FAX번호 : 352-9446