P61 Effect of vitamin C on hepatic drug metabolism in hypoxia/reoxygenation

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It has been hypothesized that formation of oxygen-derived free radicals may play an important part in ischemically induced tissue injury. In this study, the effects of vitamin C treatment on hepatic reperfusion model were investigated. Livers isolated from 18 hrs fasted rats were subjected to low flow hypoxia (1 ml/g liver/min, for 45min) followed by reoxygenation (for 30min). The perfusion medium used was Krebs-Henseleit bicarbonate buffer (KHBB, pH 7.4) and vitamin C (0.25, 0.5, 1.0 and 2.0 mM) was added to perfusate. 7-Ethoxycoumarin was used as substrate of phase □ □and □ □metbolism. After hypoxia oxygen consumption significantly dropped but vitamin C 0.25, 0.5 and 1.0 mM treatments restored oxygen consumption to the level of control group. LDH and lipid peroxidation were not changed in all experimental groups. Oxidation, phase □ □ metabolism, significantly decreased following hypoxia but improved during reoxygenation. Vitamin C 0.25 mM treatment significantly improved the oxidation of 7-ethoxycoumarin during hypoxia and reoxygenation, but the oxidation significantly decreased by vitamin C 2.0 mM treatment. Similarly, sulfate conjugation decreased in hypoxic group, but this decrease was inhibited by vitamin C 0.25, 0.5 and 1.0 mM treatments. Our findings suggest that hypoxia/reoxygenation diminishes hepatic drug metabolizing function, vitamin C at concentration of 0.25-1.0 mM ameliorates but at higher concentration aggravates these hypoxia/reoxygenation-induced changes.