

# Effect of fish oil on cytokines and heme oxygenase-1 in diabetic mice with sepsis

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This study investigated the effects of dietary fish oil on cytokines and heme oxygenase (HO)-1 in diabetic mice with early or late stage of sepsis. Diabetes was induced by i.p. injection of streptozotocin. Mice with fasting blood glucose above 200 mg/dL were used as experimental mice. There were two groups in this study : mice fed with 2.3% fish oil mixed with 7.7% soybean oil (FO) and 10% soybean oil (SO) diet. Three weeks later, sepsis was induced by cecal ligation and puncture (CLP) and then sacrificed 0,6 or 24 hours after CLP respectively. The results showed that monocyte chemoattractant protein-1 concentrations in peritoneal lavage fluid at 6 h after CLP were higher than those at 0, 24 h after CLP. Both groups HO-1 levels were higher at 24 h in the heart and at 6h in the liver. There were no differences in MCP-1 concentrations and HO-1 levels in organs between FO and SO groups at various time points. SO groups had higher IL-6 level in the liver at 24h after CLP than those at 0, 6h after CLP, whereas no difference between SO and FO groups. FO groups had lower IL-6 levels in the intestine and kidney at 24 h after CLP than those in SO the groups. Mice fed with 2.3 % fish oil did not influence MCP-1 and HO-1 concentrations, but reduced IL-6 levels in intestine and kidney on late but not early stage of sepsis.

Key term : diabetes 、 sepsis 、 cytokine 、 heme oxygenase-1