

The effects of infusion of triecosapentaenoyl-glycerol emulsion on extravascular lung water during myocardial ischemia and reperfusion in dogs.

[Izuoka T](#), [Kimura Y](#), [Hamazaki T](#), [Tamura T](#), [Kitashiro S](#), [Sugiura T](#), [Jikuhara T](#), [Iwasaka T](#).

Second Department of Internal Medicine, Kansai Medical University, Osaka, Japan.

To test the effects of eicosapentaenoic acid (EPA) infusion on pulmonary edema induced by coronary ligation and reperfusion, extravascular lung water (EVLW) was measured in situ by the thermal-dye double indicator dilution method in dogs. In the control group of five dogs, 30 mL of a 10% soybean oil emulsion was infused through a leg vein. One hour after infusion, the left anterior descending coronary artery below the first diagonal branch was ligated for 15 min and then reperfused for 30 min. In the EPA group, six dogs were similarly treated with an emulsion of a 10% triecosapentaenoyl-glycerol (90% pure). EVLW, pulmonary capillary wedge pressure, mean pulmonary artery pressure, mean blood pressure, and cardiac index were measured before and 15 min after coronary ligation, and 15 min and 30 min after coronary reperfusion. There were no significant differences in the hemodynamic indices between the two groups. EVLW significantly increased up to two times of baseline during coronary ligation in the control group ($P < 0.05$) and more during reperfusion ($P < 0.01$), whereas EVLW did not increase in the EPA group. In conclusion, EPA inhibited EVLW accumulation and may be useful for ameliorating one of the ischemia-reperfusion-induced complications, pulmonary edema.

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