

**Relationship between liver function and splenic blood flow
(Quantitative measurement of splenic blood flow with
 $H_2^{15}O$ and a dynamic state method: 2)**

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We measured splenic blood flow in 55 patients by means of quantitative splenic positron emission tomography (PET), a novel, dynamic state method with $H_2^{15}O$ as a tracer. Twenty-four of the 55 patients suffered from liver cirrhosis (LC), 25 showed no evidence of cirrhosis (NR) and 6 patients were diagnosed as having chronic hepatitis (CH). Splenic blood flow per 100 g weight of the spleen (SBF) was significantly correlated with splenic volume ($r = -0.39$, $p < 0.005$). The indocyanine green retention test at 15 min ($r = -0.39$, $p < 0.005$) and the hepaplastin test ($r = 0.37$, $p < 0.025$) also correlated significantly with SBF. The means and 95% confidence intervals for the LC, CH, and NR groups were 117.5 ml/min/100 g (96.6–138.4), 102.5 ml/min/100 g (60.6–144.4), and 160.3 ml/min/100 g (139.8–180.8), respectively. The differences in SBF between these 3 groups were significant ($p < 0.01$). We conclude that regional splenic blood flow is not proportionate to splenic volume, although the splenic volume does increase with the progressive chronic changes observed in hepatic diseases.

Key words: splenic blood flow, PET, liver function