

## Hepatic volumetric blood flow in patients with duodenal ulcer.

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**Background.** In patients with duodenal ulcer, the disorder of hepatic hemodynamics was confirmed by the retrograde propulsion of the blood through the veins of the liver, the decrease of the gradient of the arterial circuit during systole, compared to the venous reflux during diastole; reducing the elasticity and tone of the large arteries, reducing the filling of small and medium caliber arteries of the liver.

**The purpose of the investigation.** Assessment of the quantitative index – the average volume velocity of hepatic hemodynamics with the identification of reversal of blood flow (from hepatopet to hepatofug) by Doppler ultrasound in duodenal ulcer.

**Material and method.** The study included 46 patients with acute duodenal ulcer - 32 men, 14 women, average age -  $39 \pm 0.21$  years. Changes in the lining and structure of the duodenal wall confirmed by video endoscopy. Linear parameters studied by color Doppler, were calculated in the portal vein, spleen vein, superior mesenteric vein and hepatic artery.

**Result.** The volumetric flow in the portal vein varied between  $578 \pm 312$  ml / min and  $324 \pm 15.6$  ml / min and was approximately 1000-1200 ml / min. In the spleen vein, the volume velocity ranged from  $-157 \pm 0.4$  to  $366 \pm 12$  ml / min. There was a linear increase in blood flow of 70%. Upper mesenteric vein: the volume of normal flow is approximately  $194 \pm 25$  ml / min. As the pathology progressed, the volume of the flow also increased: from  $785 \pm 0.5$  ml / min to  $-979 \pm 138$  ml / min. The volume of the blood flow rate in the hepatic artery was  $269 \pm 115$  ml / min.

**Conclusions.** 1. Volumetric flow - the index that characterizes the predominant blood flow - hepatopet or hepatofug (to the liver or from the liver). 2. Received results showed us the reciprocal relationship between gastro-duodenal and hepatic hemodynamics in duodenal ulcer.

**Keywords:** volumetric flow, average volume velocity, hepatopet, hepatofug.