

Greenway C V & Stark R D. Hepatic vascular bed. *Physiol. Rev.* 51:23-65, 1971.  
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This article attempted to review physiological and pharmacological studies on the hepatic vascular bed, which was at that time relatively neglected compared to the vascular beds of muscle, heart, kidney, or brain. It provided a convenient, single citation for establishing normal parameters and physiological responses in the liver circulation. [The SCI® indicates that this paper has been cited in over 445 publications.]

## A Lifetime Interest in Liver Circulation

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October 25, 1989

After three years as a PhD student attempting to measure the newly discovered hormone aldosterone in plasma, I decided that test tubes were not for me. I therefore began to work on the cardiovascular system of anesthetized cats and dogs. After moving from Cambridge to Aberdeen, I was given the unusual opportunity as a very junior faculty member to invite any physiologist to Aberdeen for a six-month sabbatical. To my immense pleasure and surprise, Dr. Stefan Mellander, who was then in Professor Folkow's laboratory at Göteborg, agreed to come. Stefan was much more experienced than I, and his earlier elegant studies on nervous and hormonal responses in the vascular beds of muscle and intestine have become classics in cardiovascular physiology. It was the opportunity of a lifetime for me. Stefan suggested that we take a look at the vascular bed of the liver since this had not been studied in Professor Folkow's laboratory. Thus began my lifelong interest in the hepatic vascular bed.<sup>1</sup>

I moved from Scotland to Canada in 1967 and again within Canada in 1968. These two quick moves disrupted experimental research. I used this time for a thorough search of the scattered literature on the hepatic vascular bed as there had been no major review since the excellent article by Ralph W. Brauer<sup>2</sup> in 1963. Ron Stark, a Medical Research Council postdoctoral fellow who began his PhD in my laboratory in Aberdeen, then joined me in Winnipeg, and we discussed this literature extensively. We naively decided that since we had done all this work, we may as well try and get some credit for it by publishing a review. The editor of *Physiological Reviews* kindly agreed to look at a manuscript. We then discovered the enormous difference between preparing a literature review for oneself and preparing it for publication. Ron put in long hours carefully checking that we had understood and correctly cited each article. Unfortunately, after obtaining his PhD, Ron returned to England to work in other clinical areas.

However, I believe the paper proved useful especially to those not working in the field who wished to compare the liver to other organs or who needed normal parameters for hepatic blood flow for pharmacokinetic calculations. I hope that it also persuaded one or two young scientists to enter the field. Since 1971, there have been many advances although the hepatic vascular bed has never been as popular as many other beds.

My colleague Wayne W. Lutt and I have recently been privileged to update this review both in *Hepatology*<sup>3</sup> and more extensively as a chapter in the *Handbook of Physiology*.<sup>4</sup>

There are encouraging signs of increasing interest in the area as studies in pharmacokinetics progress from empirically derived elimination rate constants to specific models for hepatic drug uptake. In addition, the increasingly wide acceptance that the splanchnic vascular bed is a major blood reservoir is stimulating the interest of cardiovascular scientists. I hope that both the original and the recent versions of our review rapidly become outdated and that many new investigators will enter this interesting and often puzzling field.

1. Greenway C V, Lawson A E & Mellander S. The effects of stimulation of the hepatic nerves, infusions of noradrenaline and occlusion of the carotid arteries on liver blood flow in anaesthetized cats. *J. Physiol.—London* 192:21-41, 1967. (Cited 115 times.)
2. Brauer R W. Liver circulation and function. *Physiol. Rev.* 43:115-213, 1963. (Cited 310 times.)
3. Lutt W W & Greenway C V. Conceptual review of the hepatic vascular bed. *Hepatology* 7:952-63, 1987. (Cited 15 times.)
4. Greenway C V & Lutt W W. The hepatic vascular bed. (Wood J D. ed.) *Handbook of Physiology. Volume 1: the gastrointestinal system, motility and circulation*. Bethesda, MD: American Physiological Society, 1989. p. 1519-64.

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