

Intercommunication among the three systems of hepatic lymphatics in mammals

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The lymphatic drainage of mammalian livers is divided into three categories. The portal lymphatics emerge along the portal tract and converge onto the porta hepatis. The central lymphatics ascend along the tributaries of hepatic vein and course into the adventitia of inferior vena cava. The parietal lymphatics distribute along the surface capsule and accessory ligaments of the liver and drain into the subdiaphragmic or peritoneal lymphatic systems. Generally, lymphatics were ably identified where an abundance of connective tissue was present. We studied the interconnections of three lymphatic drainage in tree shrew, dog, pig, cow, and man livers by light microscopy of histological section stained with hematoxylin-eosin and Masson trichrome. It was found that in tree shrew, where the sublobular and portal veins crossed with each other in deep area, they shared a common tunica adventitia that was equipped with varying degrees of lymphatics. The latter characteristic was also seen in hepatic veins of dog, pig, cow and man. In dog, the subcapsular

connective tissue at concave surface extended into the liver substance and connected with walls of sublobular or hepatic veins; such stromal bridging, however, was seen only occasionally on the convex surface. When an arteriole dissociated from a portal tract and directed toward wall of sublobular vein, the isolated arteriole carried with it some lymphatics in the thick fibrous investment. The findings suggest that all three lymphatic drainage systems are intercommunicable. This implies that although some, such as the parietal and central lymphatics systems, may not develop distinctly in certain species as micromammals (rat, mouse, Ekataksin et al, 1999). The crossover of vessels and blending of stroma ensure a proper draining of interstitial fluid or extravascular infiltration from one system to the others.

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