The hepatic inferior vena cava (IVC) constitutes a hemodynamically challenged zone because the vein is encased in the liver substance. This structural continuity (hepato-caval interface), may constitute adaptations to withstand increased resistance to venous return, increased blood flow due to additional blood from the liver and may afford structural support to the liver. Its structure and fiber composition, however, is little studied in humans. We used 20 fresh postmortem specimens after ethical approval. The liver and IVC were removed en block and the vein opened posteriorly by a vertical slit. Specimens were harvested with part of liver tissue from the anterior wall of the IVC. They were processed for light microscopy, and stained with Massonôs Trichrome and Weigertôs stains to demonstrate fibromuscular architecture and enjoining liver tissue. A characteristically thick adventitia made of collagen and elastic fibers, and longitudinal smooth muscle bundles was seen. The hepato-caval interface predominantly comprised thin bands of elastic and a few collagen fibers. A preponderance of fibers was found at the portal triads and the junctions with hepatic veins. These may comprise morphological adaptations to ensure mechanical and functional co-operation between the liver and IVC in order to counter hemodynamic challenges in the zone.