Anatomical rationale for spleen salvage by lobe/segment dearterialization in inferior pole spleen injury during left hemicolectomy: a post-mortem study

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Abstract

The aim of this study was to determine the rationale for spleen salvage by lobe/segment dearterialization without resection for inferior pole injury during left hemicolectomy. One hundred and two consecutive human cadavers were dissected. Corrosion case and post-mortem arteriography with computerized planimetry were employed. Lobe/segment size, artery diameter and length and anastomoses between arteries were measured. The mean inferior terminal splenic artery had a significantly smaller diameter than the superior (2.8 vs. 3.4 mm, $p<0.01$). An inferior polar artery was found in 22.5% of the specimens (mean diameter, 1.9 mm; mean length, 33 mm). The inferior lobe and inferior polar segment comprised 41.3% and 12.6% of the spleen, respectively. Anastomoses were detected in 34 of 102 spleens (3% extraparenchymal, 88% intraparenchymal, 9% combined). The mean diameter and length of intrasplenic anastomoses were 0.3 mm and 20 mm, respectively. In conclusin, there was a positive correlation between diameters of lobar/segmental arteries and vascular zones ($p<0.05$). The rationale for splenic lobe/segment dearterialization without resection is found in the presence of intrasplenic anastomoses.

Keywords

Key words Anatomy · Spleen injury · Spleen salvage · Left hemicolectomy · Bleeding