Mapping of the Superior Mesenteric Vessels for Artery First Pancreatoduodenectomy in Patients with High Visceral Fat

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Background No studies have reported the impact of visceral fat on anatomy of the superior mesenteric vessels. We aim to clarify the anatomical relationships between the superior mesenteric artery, vein and their tributaries relative to levels of patient visceral fat to assess applicability of artery first pancreatoduodenectomy in obese patients. **Methods** 176 triple-phase computed tomography scans were retrospectively analysed to determine the positioning and distance of the superior mesenteric artery relative to the superior mesenteric vein at varying levels, and to jejunal veins. Patients were categorised into high and low visceral fat groups based on mean sagittal abdominal diameter. Hypothesis testing was performed to highlight anatomical differences. **Results** No statistical significance was found to suggest that either the distance between superior mesenteric artery and superior mesenteric vein (at gastrocolic trunk level), or the distance between superior mesenteric artery and ventral jejunal vein varied with level of visceral fat ($p=0.26$ and 0.08, respectively). Superior mesenteric artery originating caudal to the spleno-mesenteric confluence was significantly more prevalent