

Clinical anatomy of gastroduodenal artery and its surgical relevance in interventions of pancreatic region

*Zsófia Onódi¹, Csaba Korom², András Szuák¹, Károly Németh¹,
Ágnes Nemeskéri¹, László Harsányi³, Endre Gáti³*

¹Department of Human Morphology and Developmental Biology, Semmelweis University, Budapest, Hungary; ²Department of Radiology and Oncotherapy, Semmelweis University, Budapest, Hungary; ³^{1st} Department of Surgery, Semmelweis University, Budapest, Hungary

Introduction: Branches of the gastroduodenal artery (GDA) play important role in the blood supply of the pancreas, duodenum, and pylorus. The surgery in the pancreaticoduodenal groove needs precise knowledge of the vascular anatomy of the region, however, the distal arborization of GDA is scarcely explored.

Aims: To investigate the variations of branching pattern of GDA and the classification of them.

Methods: 53 abdominal organ complexes were injected with resin mixture through abdominal aorta, then the soft tissue was corroded. CT-images and 3D-reconstructions were taken on each complex.

Results: 26 bifurcations, 20 trifurcations, 6 quadrifurcations were observed at distal part of GDA. The classical variation - dividing into right gastroepiploic artery (rGEA) and anterior superior pancreaticoduodenal artery (ASPDPA) - was found only in 23 cases. In 3 cases, a common trunk of ASPDPA and posterior superior pancreaticoduodenal artery was revealed. Transverse pancreatic artery or the branch forming arch of Kirk occurred in 10 cases. In trifurcations (in 9/20) and in all of the quadrifurcations we observed infrapyloric artery as one of the terminal branches. In one case the rGEA arose from anterior inferior pancreaticoduodenal artery.

Conclusions: Branching pattern of GDA is highly variable. Detailed preoperative analysis of the vascular anatomy in the pancreatic region is of primary importance in order to avoid anastomosis insufficiency, postoperative hemorrhage or gastric emptying complications.

Fractalkine/Cx3CR1 signaling in brown adipose tissue and diet induced obesity

Ágnes Polyák¹, Zsuzsanna Winkler², Szilámér Ferenczi², Krisztina J. Kovács²

¹PPKE ITK, MTA KOKI, Budapest, Hungary; ²MTA KOKI, Budapest, Hungary

Brown adipose tissue (BAT) plays an essential role in metabolic- and thermoregulation using fatty acids for heat production. Because BAT uses fuels stored in white adipose