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Technical difficulties in Transcatheter Arterial Embolization (TAE) for bleeding peptic ulcers

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Introduction: In peptic ulcer bleedings (PUB) the problem of rebleeding is extremely important and observed in 10-15% cases after endoscopic hemostasis. Currently, the second line of treatment holds Transcatheter Arterial Embolization (TAE), which usually recommended for hemodynamically stable patients with previously performed endoscopic hemostasis with "high risk" status and in case of recurrent bleeding. Although a number of authors report 100% possibility of performing TAE, there are cases of technical difficulties of its application.

Material and methods: a retrospective, single-center study from 2021 to 2023 enrolled 89 patients with PUB and indications for TAE. Technical difficulties in performing TAE observed in 11 (12.4%) patients.

Results: For 7 patients the goal of embolization was a Gastroduodenal Artery (GDA): in 4 cases - an acute angle of origin noted, the tortuosity of the vessels and Aorta and stenosis of a Celiac Artery - 2 patients and 1 patient had a congenital anomaly - the origin of the Common Hepatic Artery (CHA) from the Superior Mesenteric Artery (SMA). For 4 patients the goal of embolization was the Left Gastric Artery (LGA): in 2 cases, a stenosis of the Celiac Artery detected, in 1 patient, an acute angle of origin and 1 patient had an Aortic Aneurysm and as a separate difficulty the intestinal pneumatosis also described. Among 11 patients with an unsuccessful TAE, rebleeding observed in 5 patients, open surgery performed for 2 patients. Lethal outcomes stated for 5 patients. As complication after TAE's attempt in 1 case has developed acute renal failure, required hemodiafiltration.

Conclusion: TAE in PUB had difficulties in performing in 12.4% cases. The main difficulties for TAE performing were anatomical features. Although TAE in most cases reduces the number of rebleeding and the need for open surgical intervention, but it may have limitations.