

The Vascularization Pattern of the Colon and Surgical Decision in Esophageal Reconstruction with Colon. A Selective SMA and IMA Arteriographic Study

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Abstract

Introduction: No matter the reconstructive technique, the fundamental concepts in visceral reconstruction have as main grounds the mandatory vascular support for the graft replacement. Individual vascular particularities can influence or even oblige the surgeon to choose a certain procedure. This is why the vascularization is beyond doubt the dominant factor in mobilizing the colon for reconstruction.

Material and method: Our arteriographic study entails an investigation upon the vascularization pattern of the two main sources that participate in the arterial irrigation of the colon via the emerging vessels: superior mesenteric artery (SMA) and inferior mesenteric artery (IMA). We did not consider certain patients upon a specific criterion; also, we did not exclude any patients due to various reasons. We took into account 49 patients as study group, all of them having registered into the clinic for a reconstructive technique, throughout the years from 2000 to 2010. From 1981 to 2012 there have been 187 reconstructive techniques performed due to post caustic pathology. From a total of 49 patients, 11 had suffered major abdominal surgeries, 5 of which had had unsuccessful reconstructive attempts.

Results: Out of the 49 patients on whom we have performed the exploration, arteriography showed a favorable situation for reconstruction in 31 of them. In the other 18 patients anomalies or atypical distributions were identified, in 5 of the SMA and in 13 of the IMA, respectively. Operative decision was modified in 22 patients. One important thing to note from the point of view of the segment to be moved: we had no graft necrosis in patients with preoperative arteriographic examination.

Conclusions: Due to the need for good mobilization, arterial ligations should be adjusted and modified depending on the particular vascular distribution, to maintain a sufficient blood flow in the marginal artery, in order to reach the colic sections and the straight arteries near them.

Abbreviations: SMA – superior mesenteric artery; IMA – inferior mesenteric artery; ICa – ileocolic artery; RCa – right colic artery; MCa – middle colic artery; LCa – left colic artery; LC acc.a – left accessory colic artery (or middle left colic artery); ILCa – inferior left colic artery; S trunk – sigmoidian trunk; Sa – sigmoidian artery; SRa – superior rectal artery

Key words: esophageal reconstruction, colic graft, vascular support

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