Table I. Comparative analysis of a study cohort of 76 extremity vascular injuries with ischemic time data for composite outcome in accordance with regional anatomy

Injury profiles	Brachial	Femoral	Popliteal	*P* value
Time delay mean (SD) min (numerical)	370.2 (191.0)	333.7 (169.2)	292.1 (126.5)	0.261[a]
Ischemia index (graded)				0.239[b]
I. No ischemia	0 (0.0)	0 (0.0)	1 (5.3)	
II. Partial ischemia	14 (77.8)	8 (44.4)	11 (57.9)	
III. Total ischemia	4 (22.2)	10 (55.6)	7 (36.8)	
Composite outcome (dichotomous)				0.184[b]
Salvaged	22 (95.6)	25 (89.3)	20 (80.0)	
Amputated	1 (4.4)	3 (10.7)	5 (20.0)	

SD, standard deviation.
[a]One-way analysis of variance.
[b]Fisher's exact test.

collateral flow should be absent, that is a totally ischemic limb, to expose the effect of ischemic time.[5,6] Both these criteria need to be appreciated, defined, and studied to further improve our knowledge in limb salvage.

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Understanding Patho-physiology of the Superior Mesenteric Artery Endarterectomy

To the Editor

The interesting paper by Xu et al.[1] underlines the place of endarterectomy in superior mesenteric artery (SMA) surgery. About this, we consider interesting some pathophysiological observations. At first we remark the SMA characteristic of ''feeding,'' rather than of ''conduit'' artery. This agrees with its large network of ileal branches, consisting in numerous vascular arcades originating straight terminal vessels, and with its important role in the celiac–mesenteric arteries system, as proved by the efficient network of collaterals with the pancreato-duodenal arcades. Differently, the distal connections with the corresponding colonic vessels develop mainly, and sometimes only, through the ileocolic branch, itself one of its middle collaterals. Of note, its acute angle branching from the abdominal aorta is hemodynamically favorable in normal conditions, deriving its blood supply from the aortic stream, minimally changed in its vector direction; however, in case of arteriosclerotic parietal stiffening this anatomy can transform the physiological laminar blood flow into a turbulent and less efficient one, as a result of a high Reynolds number. Furthermore, in course of tachyarrhythmias, the SMA flow loses its pulsating waveform, becoming continuous and weaker, in agreement with an augmented Womersley number; this gets worse in case of sudden drop in splanchnic blood supply, because of increased resistances induced by a peripheral vasospasm.[2,3]

In pathology, these data invite to distinguish a proximal from a middle-distal SMA obstruction: the first typically involving its ostium and/or its first tract, while the second concerns its middle-distal part, provided of many collaterals. Moreover, considering that plaques, mainly if ''vulnerable,'' or more extended atheromatous lesions decrease the blood flow proportionally to the length and severity of the stenosis and to the velocity of their evolution, a chronic and sometimes subclinical ischemia can become critical, also at short term. Similarly, we remark

that a better abdominal aorta outflow, as restored after an aorto-bis-iliac bypass, can make clinically evident a SMA stenosis, previously latent. We do not consider this complication as a proper ''steal syndrome,'' but rather as a blood flow ''redirection,'' given the higher pressure still present in the aorta, its large size, and the possible rapid vasoconstriction of the SMA branches in response to a sudden decrease in their blood supply.

In clinics, all these possible conditions require a precise preoperative study, today based on a computed tomography angiography, eventually ameliorated with a maximum intensity projection and a 3-dimensional reconstruction.[4] In surgery they suggest a careful choice between the different therapeutic strategies today possible. In particular, a limited stenosis, mainly of the SMA ostium or of its proximal tract, upstream important collaterals, allow different solutions, such as an endovascular treatment, functionally equivalent to the already experienced procedure of mesenteric–aortic reimplantation, or anterograde or retrograde aorto-mesenteric bypasses. However, discriminant element for their good outcome is represented by a good runoff, consisting in a large network of peripheral collaterals. Differently, more peripheral stenoses would indicate procedures of endarterectomy, given the advantage of dis-obstructing collateral branches.[5–8] Clearly, a bypass can be associated to an endarterectomy, allowing to reduce the discrepancy in size between the graft and the recipient vessel, possible origin of a turbulent inflow, to increase the runoff and to enlarge the revascularized territory: this strategy follows a corresponding current trend in coronary surgery.[9,10] However, a warning still remains actual, regarding, as a possible complication, the onset of a ''competition'' between the native and the restored flow, with a risk of thrombosis at short term. This invites to carefully select each case; in prospective, we would expect technological improvements, that, associated with pharmacodynamic tests, will help to recognize different conditions, such as SMA stenosis, that, although morphologically not severe, are followed by critical pressure gradients, so suggesting an endarterectomy, differently from others, more limited but with a normal distal arterial network, suitable of an endovascular treatment.[11]

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Determining Predictors of Long-term Renal Function Degradation after Aortic Aneurysm Surgical Repair: Methodological Issues Should be Emphasized

To the Editor:

With great interest we read the recent article by Rouer et al.[1] assessing the predictive ability of early postoperative renal dysfunction for long-term renal function degradation after type IV thoracoabdominal aortic aneurysm surgical repair. By the univariate and multivariate logistic regression analyses, they showed that an

Re: Rouer M, et al. Early Postoperative Renal Dysfunction Predicts Long-term Renal Function Degradation after Type IV Thoracoabdominal Aortic Aneurysm Surgical Repair. Ann Vasc Surg. 2020 May 18: https://doi.org/10.1016/j.avsg.2020.04.072.

We have screened our manuscript for plagiarism using the Plagiarism Checker (www.duplichecker.com) and no plagiarism is found.

Authors' Contributions: All authors had carefully read the manuscript of Rouer et al., analyzed their methods and data. ZJX and FSX suggested comment points and drafted this manuscript. YC and YJY revised comment points and this manuscript. All authors read and approved the final manuscript.