A Word of Caution Before Killing Hypogastric Arteries

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The clinical investigation performed by Bratby et al. [1] regarding internal iliac artery (IIA) embolization prior to endovascular aneurysm repair (EVAR) is very important because it highlights the relatively safe feasibility of EVAR in such borderline iliac anatomies. In a similar study we conducted [2] including 33 unilateral and 8 bilateral IIA embolizations, we found similar results, with five cases of buttock/hip claudication (12.2%) and no case of bowel or spinal cord ischemia.

While buttock claudication is the most frequent complication [1, 2], bowel and spinal cord ischemia are the major complications of IIA embolization. Bowel ischemia has been considered a multifactorial problem in open surgery, considering embolism, long-term hypoperfusion, mesentery stretch, traction or compression due to self-retraining retractor, bowel reperfusion syndrome, and collateral circulation. While most of these situations are not present during EVAR, collateral arterial circulation is a common risk factor. Yano et al. [3] reported high rates of bowel ischemia with hypogastric exclusion after EVAR, attributed to stenosis or occlusion of the ipsilateral femoral artery. Collateral arterial vasculature seems to play an important role in bowel ischemia after EVAR [4]. Even if there is no angiographic evidence that could forecast bowel ischemia, before proceeding to bilateral IIA exclusion, patients' collateral arterial circulation should be studied, aiming for the preoperative identification of celiac artery or superior mesenteric artery stenosis or obstruction and patency of external iliac artery and common femoral artery collaterals.

Furthermore, operators should be particular accurate regarding the preservation of these circumflex collaterals during surgical preparation of the femoral arteries.

Regarding spinal cord ischemia prevention when planning IIA exclusion, particular attention should be paid to the patient's medical history. Thoracic aortic procedures, endovascular or surgical with sacrifice of intercostal arteries, and subclavian artery stenosis or occlusion are important factors that could increase the risk of spinal cord injury.

In conclusion, I believe that when bilateral IIA exclusion is considered as an operative strategy prior to EVAR, preoperative imaging workup should focus also on the status of the patient's collateral circulation.

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