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Comments on Superior Mesenteric Artery First Approach for Right Colectomy

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TO THE EDITOR

We read the article by Luo et al.¹ with great interest. There are some points we would like to address.

In the superior mesenteric artery first approach, the dissection is started in the cranial part of the superior mesenteric artery (SMA), outside the vascular sheath, in order to preserve autonomic nerve function. The colic arteries are ligated at their origin. The surgical trunk of superior mesenteric vein (SMV) and the jejunal veins, if they cross anteriorly, are skeletonized.

In our hands, the dissection is less complicated, and the colic branches (middle colic artery, right colic artery, and ileocolic artery) are found easier if the arterial sheath is incised. The vascular sheath is the perfect layer to operate in, and by doing so, one gets to the D3 volume from outside, minimizing the spillage of lymphatic fluid, which can contain cancer cells. In our procedure, the extent of injury to the superior mesenteric nerve plexus is 48% of the area.² A study³ has shown that the effect of such injury to the nerve plexus on the patient's bowel function is comparable to that of patients who have undergone traditional D2 mesenterectomy.

In our practice, we use preoperative 3D-reconstructed abdominal computed tomography (CT).⁴ The reconstruction functions like a roadmap for surgery covering the whole SMA/SMV surgical trunk where syntopy between the arteries and veins is depicted. Vascular abnormalities,⁵

which appear in approximately 10% of patients, can be recognized and planned for in advance of the operation with the reconstructions. The body mass index (BMI) of the patients in the article is low compared with the BMI of the patients with colonic cancer in Western Europe. In our opinion, it would be difficult to find and dissect along the SMA, starting cranially, in patients with high BMI and excess fat in the mesocolon. With the vascular map, the dissection can start near the ileocolic vessels, which we think is a safer approach. Any vascular accident at this level has little consequences compared with injury to the proximal SMA or SMV. Any jejunal veins crossing AMS anteriorly will also be recognized ahead of the operation.

As stated in the article, there is no consensus regarding the medial border for right colectomy when treating cancer. Lymphatic tissue draining the right colon has been found anterior and posterior to the mesenteric blood vessels.^{6,7} Lymph vessel trajectories have been mapped out in an anatomical study,⁶ and lymph vessels draining the right colon were found in front of SMA in 14 of 16 cadavers. With these results in mind, our group have proposed the left edge of SMA as the medial border for right colectomy when treating cancer. With the procedure “right colectomy with extended D3 mesenterectomy: anterior and posterior to the mesenteric vessels,”^{8,9} which can be performed with an open, laparoscopic, or robot-assisted approach, the removal of lymphatic tissue in front of and behind SMA and SMV with a medial border along the left side of SMA is accomplished.

DECLARATIONS

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