

# The Azygos Vein: to Resect or Not?

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Dear Editor,

With great interest we read the article by Schröder et al. to be published in a forthcoming issue of the Journal of Gastrointestinal Surgery in which they investigated the potential value of resecting the azygos vein in transthoracic esophagectomy for esophageal cancer.<sup>1</sup>

During (robot-assisted) thoracoscopic esophagectomy, the trunk of the azygos vein is often preserved as the scopic ligation of the numerous intercostal veins is technically difficult and time-consuming.<sup>2–6</sup> One may postulate that this may negatively affect the extent of lymph node harvesting or the circumferential radical (R0) resection rate.

Schröder et al. have, therefore, performed a prospective evaluation on the amount of lymph nodes surrounding the azygos vein in 92 patients with esophageal cancer having undergone open transthoracic esophagectomy with two-field lymphadenectomy.<sup>1</sup> Lymph nodes near the azygos vein were identified in 65% of patients and metastases in these lymph nodes were found in 8%. They, therefore, conclude that the dissection of the azygos vein should not be abandoned, irrespective of the surgical approach.

A comment should be made on the design of the study. As clearly shown in Figure 2 of their article, they dissected the azygos vein with the surrounding tissues

sharply from the esophagus, which is not representative for (robot-assisted) thoracoscopic esophagectomy. In (robot-assisted) thoracoscopic esophagectomy, subsequent to the ligation of the azygos arch, the mediastinal dissection of the esophagus and surrounding tissues is performed sharply along the azygos trunk. In this way, the fatty tissue in between the esophagus and the azygos vein (including the lymph nodes of stations 108 and 110) as well as the thoracic duct are included in the esophageal resected specimen and are not left in situ when the trunk of the azygos vein is preserved.<sup>2</sup> The number of lymph nodes that will be left in situ with (robot-assisted) thoracoscopic esophagectomy will, therefore, be much less than stated in this article. Indeed, in our recently published cadaveric study in which we investigated an identical research question, a mean amount of only 0.67 lymph nodes were identified around the azygos vein using the thoracoscopic dissection method.<sup>7</sup> Using this approach, in 60% of cadavers, no lymph nodes near the azygos vein were detected at all. With regard to the possible effect of azygos vein preservation on the radical resection rate, we can refer to our first report on 21 esophageal cancer patients having undergone robot-assisted thoracoscopic esophagectomy. The R0 resection rate of 76% in that series is similar to that of open transthoracic esophagectomy.<sup>2,8</sup> In our opinion, it is, therefore, justified to preserve the azygos trunk during (minimally invasive) transthoracic esophagectomy.

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