RAMIE for T4b Esophageal Cancer: A Study of Salvage Surgery or Superior Selection?

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Patients with locally advanced esophageal cancer represent a heterogeneous population whose management may be challenging and require a multidisciplinary approach. While clinical practice guidelines advocate induction treatment with chemoradiotherapy (often at “definitive” treatment doses) followed by surgery, the ultimate resectable nature of tumors suspected to be T4b may not be precisely known at the time of initial presentation.^{1,2} Defize et al. present an impressive cohort of 44 patients with T4b esophageal cancer deemed to be candidates for curative treatment at the time of diagnosis who underwent definitive chemoradiotherapy followed by a thorough restaging process including repeat esophagogastroscopy with biopsies, bronchoscopy, endoscopic ultrasound (EUS), PET-CT scans, and/or endobronchial ultrasound (EBUS) prior to consideration of surgery.³ Twenty patients converted to non-surgical candidates due to disease progression, complications of treatment, anatomic inoperability, patient request, or death, leaving 24 patients to undergo robotic-assisted minimally invasive esophagectomy (RAMIE).³ There was an overall morbidity rate of 83% (the majority minor complications) with a mortality rate of 5%.³

There were no postoperative airway complications in this highest risk population; 79% of patients had preoperative clinical involvement of the tracheobronchial tree. This is a notable achievement and speaks to the authors’ significant and long experience in RAMIE. The association

of major airway complications with technical experience level in RAMIE was well highlighted by the series from Memorial Sloan-Kettering Cancer Center, in which 3 of 21 initial patients experienced tracheobronchial fistulae, with no further injuries in the subsequent 100 patients after careful case review and procedural adjustments.^{4,5} Also impressive in the current study, Defize et al. were able to achieve R0 margins in 92% of patients, which contributed to a cumulative disease-free survival rate of 89% at 12 months and 68% at 24 months.³

Critique of the current study is based largely on a matter of definition and the debatable and unclear meaning of “salvage” put forth by the authors. Many would deem “salvage” to refer to those patients not considered for surgery at first presentation and subsequently offered surgery due to clear disease progression or persistence, often at an extended time interval well beyond that thought to be ideal in the posttreatment setting. However, the current study essentially describes a more “routine” induction chemoradiotherapy protocol followed by planned exploration and RAMIE at a relatively standard post-treatment interval, albeit in patients at high suspicion of potentially inoperable disease.

This distinction of definition in no way detracts from the authors’ outcomes. However, this “angle,” in our opinion, does distract from what is perhaps a more significant central message that should be taken from this study. To be clear, Defize et al. present remarkable outcomes following a technically challenging operation, a study that represents one in a long line of such innovative reports from the internationally recognized and respected University of Utrecht group over the past two decades. Also, as the authors mention, their meticulous process of staging, restaging, and the remainder of their patient selection process cannot be overlooked or underemphasized and is a

critical component of the “magic sauce” in this study. Given this, and the recognized association of volume and outcomes in complex esophageal cancer surgery, it is not overly surprising that the surgeons from this highly experienced esophageal center of excellence, credited as being among the initial innovators in RAMIE, have demonstrated the technical feasibility of RAMIE for T4b esophageal tumors with superior outcomes.⁶

With regards to the robotic platform, which is increasingly lauded as a superior technical instrument, we humbly remind the reader it can only augment existing surgical experience and wisdom, not create it. This caution must accompany any new technology advocated to potentially “improve outcomes.” In our opinion, the true central message of this commendable experience from Defize et al. distills down to basic time-tested principles: evaluate and select patients well and provide high-quality surgery from experienced surgeons. And yes, with those caveats in place, if you give an experienced surgeon a better tool, the outcomes in complex operations may very well improve.

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