subset of patients would likely receive benefit from this operation, thus justifying the morbidity risk, future studies are needed to characterize this most at-risk group. Before this, however, given the shorter length of stay and fewer major complications observed, results of this novel study appear to suggest that supercharging anastomoses could become a standard part of the operation instead of being performed only selectively. The prospect of coupling the performance and esophagectomy without incurring the risk of an anastomotic complication may be the long sought after and celebrated icing on the cake. Perhaps someday this

strategy will allow thoracic surgeons to have this cake and eat it too...with their patients, of course.

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Commentary: Eliminating cervical anastomotic leak after esophagectomy: To supercharge or not to supercharge, that's the question

Toni Lerut, MD, PhD

Anastomotic leaks have been and still are the Achilles heel of esophagectomy. When I started my career in the mid-seventies of the previous century, anastomotic leaks had a grim reputation because of their high associated mortality. An international multicenter report on 2400 esophagectomies published in 1980 revealed a 21% mortality in cervical anastomotic leak.¹ Over time, this mortality has decreased to become an exception nowadays. However, the incidence of leaks still remains high, alarmingly high.

The Esophageal Complications Consensus Group, involving a worldwide platform of 24 high-volume esophageal surgical centers in 14 countries, analyzed 2704

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CENTRAL MESSAGE

Cervical anastomotic leak rate has not decreased over time and remains far too high. Supercharged esophagogastronomy has promising potential in selected patients.

esophagectomies between 2015 and 2016, reporting 11.4% anastomotic leaks.² A sobering fact check: this is almost identical to the 12% overall leak rate in the 1980 report! It's an inconvenient truth because leaks cause short- and long-term patient morbidity, quality of life impairment, financial costs, and possible legal consequences.

Decrease of arterial inflow and venous outflow congestion at the distal end of the conduit are considered to be the culprits. Surgeons have relentlessly tried to get a better grip on this cumbersome complication. Delicate handling of tissues at the distal end of the conduit, shortening of the distal end of the gastric tube in the neck whenever possible, avoiding traction on the conduit and anastomosis, and using

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a meticulous anastomotic technique are as essential as social distancing in coronavirus disease 2019 epidemic. The use of preconditioning has been tested but lacked a robust proof of a beneficial impact and also was too complex.

The SPY Imaging system with laser-assisted indocyanine green fluorescent dye angiography allows one to visualize the blood perfusion in the gastric conduit in particular at the distal tip. Performing an anastomosis in a well-perfused segment versus a zone of less-robust perfusion as visually assessed by Zehetner and colleagues³ resulted in a significantly greater incidence of anastomotic leak in the latter, 45% versus 2% ($P < .0001$).

The novelty in the article by Takeda and colleagues⁴ in this issue of the *Journal* consists of the development of an objective assessment of absolute and relative perfusion values in relation to a chosen reference point. This was then applied in 25 consecutive supercharged cervical esophagogastrostomies. It resulted in a significant perfusion improvement that correlated with a promising 0% leak rate compared with a 10.5% leak rate in a control group of 55 patients without supercharged anastomosis.

There are weak points. It concerns a small series. The control group had a significantly greater complication rate of 45% versus 20% without specifications of the type of complication, eg, respiratory infection, atrial fibrillation,

that possibly could have had a causal impact on the occurrence of an anastomotic leak.

Also, the measurements were only performed on the supercharged anastomosis group. It would have been of added value to have these measurements in the control group as well, as they could have shed light on the perfusion status of patients with a leak versus those without.

Indeed, the next important step now consists in determining a cut-off value between a robust perfusion and the borderline perfusion carrying high risk for a leak, since this will help to decide when, or better, when not to call in a microvascular surgeon with a 2-hour prolongation of the intervention, in fact, in this series in 89.5% of the patients.

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