

initial TEVAR could have prevented some lethal complications in our series.

CONCLUSION

Endovascular management of emergency cases of ABF and AEF is associated with poor results. Patients with AEF treated with TEVAR appear to have an inferior outcome compared to patients with ABF. TEVAR does prevent immediate exsanguination in patients admitted with AEF and ABF but after initial deployment of the endograft and control of the hemodynamic status, most patients, in particular those with AEF, are at risk for infectious complications. Early esophageal repair appears to improve the survival in case of AEF. Therefore, TEVAR may serve as a bridge to surgery in emergency cases of AEF with subsequent definitive open operative repair of the esophageal defect as soon as possible. In patients with ABF, additional open surgery may not be necessary after the endovascular procedure.

AUTHOR CONTRIBUTIONS

Conception and design: FJ, BM

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Writing the article: FJ, BM

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INVITED COMMENTARY

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Mercifully, fistulous communications between the aorta and the aerodigestive tract are rare. Death may come quickly from

exsanguination, or be prolonged due to sepsis. The former threat is remedied by prompt treatment of the defect in the aorta, the latter

by repair of the defect in the aerodigestive tract. Both are formidable undertakings, usually in patients with prior chest surgery and multiple comorbidities now further compromised by acute blood loss or sepsis.

Immediate death due to exsanguination may be prevented by thoracic endovascular aneurysm repair (TEVAR) to plug the hole in the aorta. However, this does nothing to address the issue of the defect in the aerodigestive tract, leaving the patients at risk for a septic demise. In the reports by Riesenman and Jonker, although TEVAR was effective in reducing the immediate mortality due to exsanguinations, the overall mortality rate in these two series was still quite high (20% to 45%). The best results in these two series were in those patients who underwent prompt repair of the aerodigestive tract defect after stabilization of bleeding by TEVAR.

The most efficacious use of TEVAR appears to be that of a hemostatic device to convert the situation from emergent to urgent. Prompt surgical repair of the defect in the aerodigestive tract is essential to prevent later complications from ongoing contamination due to the untreated communication with esophagus or bronchus. Once hemostasis is obtained and the patient stabilized, repair of the fistula should not be delayed. Recurrence of both bleeding and sepsis is high, likely due to chronic graft infection, if the fistula is not surgically corrected. Complications from esophageal defects appear to arise more quickly than compli-

cations from bronchial communications, suggesting that the spilled esophageal contents are more virulent than is communication with the open air. Both, however, are ultimately lethal if untreated.

Controversy arises regarding the nature of the aortic repair. Is TEVAR sufficient and definitive, or is it a bridge to another solution? These series have demonstrated that TEVAR will fail due to infection of the graft in a significant number of cases, reinforcing the concept of TEVAR as a stopgap measure rather than a definitive repair. This is not surprising, given the time-honored surgical maxim of removal of all prosthetic from a contaminated field. The failures of TEVAR as a definitive strategy were more frequent and faster for the esophageal than for the bronchial fistula group. The safest aortic strategy appears to be that of extra-anatomic aortic reconstruction or in situ allograft replacement of the aorta with explant of the TEVAR at the time of fistula repair, although experience is limited.

Clearly, any strategy in this patient population needs to be highly individualized given the risks of major thoracic surgery (often reoperative). These present reports alert us to the utility of TEVAR in the immediate management of these challenging patients and caution us about its inadequacy as a definitive solution for this condition.

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