EDITORIAL COMMENT

A rationale for managing rare complications: evidence from the European Registry of Endovascular Aortic Repair Complications about aorto-oesophageal fistula

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Despite recent advances, thoracic endovascular aortic repair (TEVAR) is still associated with uncommon complications such as spinal cord ischaemia and aorto-oesophageal fistula (AEF) [1, 2]. Although these complications are rare, they are clinically important because they can have devastating outcome consequences. They are, therefore, prime targets for further study in clinical registries to optimize clinical management, as outlined recently in the journal [3, 4].

In this issue of the journal, the multicentre European Registry of Endovascular Aortic Repair Complications (EuREC) has published its data (n = 2387: 17 medical centres from 2001 to 2011) about AEF as a complication of TEVAR [2]. This is a significant contribution to the literature as prior clinical studies of this topic have mostly been limited to small single-centre series with limited data (based on an extensive PubMed search conducted by the authors of this editorial comment, completed by 31st July 2013).

This important publication documented a 1.5% incidence of AEF after TEVAR [2]. This incidence is very similar to the 1.7% incidence of spinal cord ischaemia after TEVAR, recently published by the EuREC group [1]. The devastating impact on mortality from AEF was also starkly apparent from the EuREC experience: survival at 1 year was 0% with conservative therapy, 43% with isolated oesophagectomy and 46% with radical oesophagectomy and aortic replacement [2]. The investigators point out that, based on the registry data, aggressive surgical therapy was the only available cure for this catastrophic complication.

The power of the EuREC data to characterize AEF after TEVAR can be appreciated when compared with a recent single-centre study of open surgical correction after TEVAR (n = 147: 2000–12): in this series, there was only 1 patient with an AEF after TEVAR, despite the study period extending for >10 years [5]. It is thus impossible for a single-centre experience to describe adequately the natural history of AEF after TEVAR, given its incidence of ~1%. The clinical utility of EuREC is exemplified in this important publication, namely its ability to describe the incidence, presentation and management of this rare complication after TEVAR [2]. The focusing power of a clinical registry has gradually resulted in a blossoming of this research approach in thoracic aortic diseases, as evidenced by the advent of multiple thoracic aortic registries worldwide, all over the world in an effort to improve outcomes from acute dissection and aneurysm [6–9]. In fact, the integration of these multi-centre registries into the investigation and management of thoracic aortic diseases worldwide represents a major clinical advance in cardiovascular practice.

The EuREC investigators have highlighted the clinical importance of AEF after TEVAR as clinically comparable with spinal cord ischaemia with respect to incidence and mortality risk [1, 2]. The outcome of spinal cord ischaemia after TEVAR has been improved significantly over time by proactive protective protocols whose development was originally triggered by the incidence of this dreaded complication in high-risk open aortic replacements [10]. Given this success with spinal complications after TEVAR, perhaps another message of this important paper from EuREC is that it is time to focus attention on oesophageal complications in high-risk TEVAR patients. Perhaps, this clinical focus could reduce the morbidity and mortality from AEF subsequent to TEVAR.

Based on the analysis of the EuREC data, two risk factors for AEF have been identified: mediastinal haematoma and emergency TEVAR. Mediastinal haematoma could aggravate oesophageal wall ischaemia directly due to compression and indirectly due to associated anaemia and hypotension. Emergency TEVAR frequently involves patients with hypotension and/or malperfusion, both of which at times may compromise oesophageal blood supply. Clearly, further trials are required to explore the risk factors for AEF after TEVAR to enhance the evidence base for further successes in its management, including prevention.

Based on this EUREC report, the median time to diagnosis of AEF was ~3 months after the index TEVAR [2]. Given the high
mortality of this complication at presentation, we wonder whether earlier diagnosis could lead to better survival. The non-specific presentation of AEF with fever of unknown origin as the most common syndrome likely results in diagnostic and hence therapeutic delays, as has recently been documented in the management of acute Type A dissection by the International Registry of Acute Aortic Dissection [7]. The EuREC investigators have the opportunity in the future to explore the correlates of delayed recognition of AEF after TEVAR. Their clinical findings may identify crucial variables that could be manipulated to reduce diagnostic delays and save lives.

We congratulate the EuREC investigators for highlighting the clinical importance of AEF after TEVAR. It is likely that this registry will continue to contribute significantly to the prevention and management of serious complications after TEVAR, including AEF. The registry approach offers investigators a powerful method for exploring serious but rare complications after TEVAR such as AEF. This clinical approach can strengthen the evidence base yet further to enhance the rational management of rare complications after TEVAR.

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**REFERENCES**


