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Editorial Open Access

High-Volume Hospitals for Patients Affected by Thoracic Aortic Diseases. Do We Really Need them?

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Editorial

The term "thoracic aortic disease" (TAD) includes a wide range of aortic diseases with variable clinical presentations and prognosis. The Global Burden Disease 2010 project demonstrated that the overall global death rate from aortic aneurysms and aortic dissection increased from 2.49 per 100000 to 2.78 per 100000 inhabitants between 1990 and 2010, with higher rates for men [1]. At the same time, admissions for thoracic aortic aneurysms have increased from 4.4 to 9.0 per 100000 in the UK, mainly due to an increase in elderly patients, over 75 years of age [2].

Despite this emerging epidemic, standard of care for TAD has not been established. The 2010 American Heart Association (AHA) guidelines for the management of TAD [3] include a level I recommendation for the "evidence-based referral" of TAD patients, limiting their care to large volume centres, with experienced physicians, and supporting teams. However, the evidence to support this recommendation is level C, based on the consensus of opinion of the experts and small studies, retrospective studies and registries. Similarly, the European Society of Cardiology (ESC) 2014 guidelines on TAD [4] primarily consist of recommendations based on level C evidence. This contrasts with the evidence base for the management of other cardiovascular conditions [5,6].

Therefore, do we really need high-volume hospitals for dealing with patients affected by TAD? Yes, we do. However, despite this intuitive evidence, a large variety in outcomes and results across cardiac centres and countries is still present. Only few studies have investigated the relationship between hospital volume and mortality in patients affected by TAD, including both aortic aneurysms and dissections [7-12]. Although limited in numbers, these studies underpin the need of dedicated super-centers in order to improve survival of such disease. Chikwe et al. [11] evaluated the impact of low-volume, medium-volume and high-volume hospitals in patient mortality. Their data fully support the need for super-center in dealing with TAD. Even more impressive were the data published by the Duke University: after the introduction of specific thoracic program for aortic dissection (mainly based on dedicated surgeons for type A dissection case) hospital mortality declined from 34% to 2.8% [12].

Based on these evidence, it appears clear the need of high-volume centers for thoracic disease. The knowledge gap in the standard of care for TAD is waiting to be filled.

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