

[45] with an operative mortality of 7.7% in this high-risk malperfusion cohort. Furthermore, all patients with neurologic deficits at presentation recovered completely, while about 8% developed new neurologic deficits postoperatively [44, 45]. -Future studies on larger cohorts, including long-term follow-up and sequential imaging, are required to evaluate device benefits and its clinical significance in comparison to established surgical alternatives.

Summary

Since the first post-mortem description of AAS by Morgagni in 1761, this pathology has challenged the medical and scientific community across many specialties regarding appropriate diagnostic and management strategies [48]. The true incidence of AAS is still uncertain due to the likely substantial number of undiagnosed cases. Recent epidemiologic analyses from Europe have estimated the true incidence for AAS at approximately 12 cases per 100,000 inhabitants per year.

Registry-based, multicentre data reveal an operative mortality of approximately 20% for the surgical treatment of type A AAS, and has remained relatively stable over the last decade. Data from Japan and South Korea, however, have consistently demonstrated lower operative mortalities for this pathology. The reason for these observed differences is likely multifactorial, but a generally heightened awareness for AAS, the implementation of dedicated aortic centres and teams, and the widespread availability of computed tomography likely play a role. Various risk stratification tools and the “triple rule out” strategy may lead to further reductions in mortality in patients with AAS.

With the advent of stent-based aortic repair, a tremendous shift towards endovascular approaches for descending and abdominal AAS has occurred.

As age and comorbidities of patients with AAS are steadily increasing, catheter-based treatment modalities of ascending aorta and arch pathologies have been increasingly developed. A novel device for hybrid stenting of the aortic arch and descending aorta during type A AD repair appears particularly promising. In addition, novel therapeutic options for the treatment of AAS involving the aortic root are being actively investigated. Although several anatomic and technical challenges remain for these procedures, good initial success rates have been reported in highly selected patients. Much more data with longer-term follow will be required, however, before such devices become a standard approach in the management of AAS of the ascending aorta and arch.

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