

SCIENTIFIC LETTER

Acute aortic syndrome: proposal for a novel classification

B van der Loo, R Jenni

Heart 2003;89:928

The term "acute aortic syndrome" (AAS) has recently been introduced into the literature¹ to describe a variety of acute aortic pathologies. These include classic aortic dissection, intramural haematoma, and ulceration of the aorta. Classic aortic dissection is characterised by the existence of an intimal tear and, in the majority of cases, a re-entrance tear. Intramural haematoma is characterised by the presence of a haemorrhage into the aortic media which leads to the development of a false lumen. The entrance and re-entrance tears seen in classic aortic dissection are absent.² Aortic ulcers usually penetrate through the intima into the media. A causal relation has been proposed linking these three conditions.¹ The presence of an ulcer may precipitate both an intramural haemorrhage and a classic dissection, a condition which usually occurs in a severely atherosclerotic aorta. An intramural haematoma, in turn, may precipitate a dissection.

However, this concept is lacking in other important and rather commonly observed aortic pathologies, namely aortitis and intraluminal thrombus.

Aortitis (wall thickening) involves one or more layers of the aortic wall and can be caused by several mechanisms, including systemic vasculitis, generally caused by autoimmune disorders, and infections.³ The eventual disruption of the aortic wall caused by vasculitis may be due to granulomatous inflammation of the aortic wall (Takayasu's disease), vasculitis of the vasa vasorum (polyarteritis nodosa), or invasion of granulomatous tissue into the aorta (Wegener's granulomatosis).⁴

Although partly overlapping characteristics exist between all of these conditions, we propose to extend and complete our understanding of the pathogenesis of AAS as shown in fig 1.

In addition to the concept that had previously been published,¹ we urge the inclusion of intraluminal thrombus formation as a distinct pathologic condition. Furthermore,

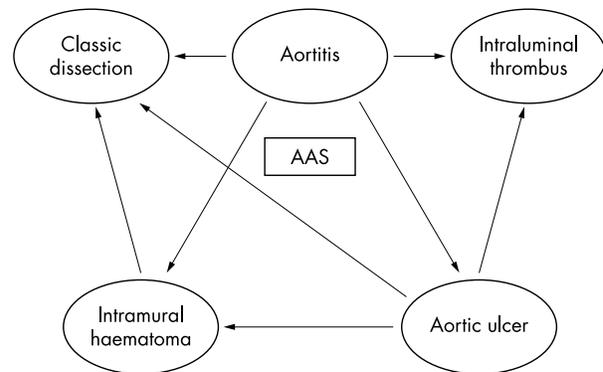


Figure 1 Acute aortic syndrome (AAS). Arrows indicate the possible progression of each of these aortic lesions.

aortic and periaortic inflammatory processes form an anatomopathological picture causative for AAS.

Authors' affiliations

B van der Loo, R Jenni, Echocardiography, Division of Cardiology, Cardiovascular Centre, University Hospital Zurich, Zurich, Switzerland

Correspondence to: Dr Rolf Jenni, Cardiology, Cardiovascular Centre, Raemistrasse 100, CH-8091 Zurich, Switzerland; karjer@usz.unizh.ch

Accepted 27 February 2003

REFERENCES

- 1 Vilacosta I, San Roman JA. Acute aortic syndrome. *Heart* 2001;85:365-8.
- 2 Vilacosta I, San Roman JA, Ferreiros J, et al. Natural history and serial morphology of aortic intramural hematoma: a novel variant of aortic dissection. *Am Heart J* 1997;134:495-507.
- 3 Mohan N, Kerr G. Aortitis. *Curr Cardiovasc Med* 2002;4:247-54.
- 4 Blockmans D, Baeyens H, van Loon R, et al. Periaortitis and aortic dissection due to Wegener's granulomatosis. *Clin Rheumatol* 2000;19:161-4.