
The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC)
Keywords: Guidelines, Aortic diseases, Aortic aneurysm, Acute aortic syndrome, Aortic dissection, Intramural haematoma, Penetrating aortic ulcer, Traumatic aortic injury, Abdominal aortic aneurysm, Endovascular therapy, Vascular surgery, Congenital aortic diseases, Genetic aortic diseases, Thromboembolic aortic diseases, Aortitis, Aortic tumours

Guidelines summarize and evaluate all available evidence at the time of the writing process, on a particular issue with the aim of assisting health professionals in selecting the best management strategies for an individual patient, with a given condition, taking into account the impact on outcome, as well as the risk-benefit-ratio of particular diagnostic or therapeutic means. Guidelines and recommendations should help the health professionals to make decisions in their daily practice. However, the final decisions concerning an individual patient must be made...

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Topic:

abdominal aortic aneurysm

aorta

aortic diseases

follow-up

surgical procedures, operative
Your critical comments related to the different steps in the diagnostic work-up and flow chart presented in our 2014 ESC Guidelines on the Diagnosis and Treatment of Aortic Diseases are well appreciated (1). During the writing process of the guidelines we already had many hours of discussion about the design of the flow chart (Fig 6) and the diagnostic steps recommended. The flow chart was developed in order to help the decision making in the emergency room. Therefore, we tried to look at any patient coming to the emergency room or chest pain unit. It is not the patient with suspected acute aortic syndrome (AAS), who may be presented to a specialized center or a surgical department as analyzed previously and in recent manuscripts (2, 3). Thus, we are dealing with patients seen for the first time before any suspicion of an AAS. Therefore, our first step is the recording of a 12 lead ECG in order to rule out STEMI. We mentioned in the figure legends that in rare cases STEMI may be associated with AAS.
We clearly took into account that patients with acute aortic dissection may present with other symptoms than chest pain (chapter 6.3.3: Table 4 Main clinical presentations and complications of patients with acute aortic dissection)

Please refer to attached table

In unstable patients immediate transthoracic/transoesophageal echocardiography (TTE/TOE) or computed tomography (CT) are used for confirmation of the diagnosis. In stable patients the pre-test probability of an AAS is assessed including medical history for detection of high-risk conditions, high-risk clinical features and high-risk clinical features. Three non-invasive tests are recommended for further work-up in low pre-test cases: chest x-ray (Class IIb, level C), laboratory tests (Class IIa, level C) and TTE (Class I, level C); the latter for both high and low pre-test probability. In presence of an AAS, particularly aortic dissection the chest x-ray may present a mediastinal widening, the D-dimers may be elevated and TTE may show a pericardial effusion, aortic regurgitation or an aneurysm, sometimes an intimal flap. If one of the three tests is positive, further more sensitive methods like CT or magnetic resonance imaging or TOE are recommended (Fig 6). TTE in any way can be performed at the bed site, D-dimer tests are even available as point of care tests in many institutions, and chest x-ray may be used if the imaging facility is close to the emergency ward.

The authors F Morello and P Nazerian demonstrate in their studies that the presence of a mediastinal widening had a sensitivity of 16.7% and specificity of 86.3% (2), which confirms our recommendation for use in the low pre-test probability group, because the negative predictive value reached even 94.5%. Also the analysis of the sensitivity of D-dimer in cases of a low- pre-test probability reached 98.7%, but the specificity only 35.7 % with a high negative predictive accuracy of 99.2%, but positive predictive accuracy of only 25.6% (3).

The guidelines have used a Class IIa and Level B recommendation, which is in agreement with these results (1).

In conclusion, the new 2014 ESC guidelines on the diagnosis and treatment of aortic diseases have provided a diagnostic work-up, which should be useful in many emergency rooms or chest pain units. We agree that more studies are necessary in order to prove the validity of our recommendations in the real world setting. This lack of evidence was already listed in the last chapter 13 Gaps in Evidence. We highly value your recent publications in this field, which were
unfortunately not available during the writing process of the ESC guidelines, several months prior to their presentation and publication.

References

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