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Editor's Choice Guidelines

2014 ESC Guidelines on the diagnosis and treatment of aortic diseases: Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC) FREE

Authors/Task Force members, Raimund Erbel ✉, Victor Aboyans ✉, Catherine Boileau, Eduardo Bossone, Roberto Di Bartolomeo, Holger Eggebrecht, Arturo Evangelista, Volkmar Falk, Herbert Frank, ... Show more
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Jose Luis Zamorano, Stephan Achenbach, Helmut Baumgartner, Jeroen J. Bax, Héctor Bueno, Veronica Dean, Christi Deaton, Çetin Erol, Robert Fagard, Roberto Ferrari, David Hasdai, Arno Hoes, Paulus Kirchhof, Juhani Knuuti, Philippe Kolh, Patrizio Lancellotti, Ales Linhart, Petros Nihoyannopoulos, Massimo F. Piepoli, Piotr Ponikowski, Per Anton Sirnes, Juan Luis Tamargo, Michal Tendera, Adam Torbicki, William Wijns, Stephan Windecker, Document reviewers, Petros Nihoyannopoulos, Michal Tendera, Martin Czerny, John Deanfield, Carlo Di Mario, Mauro Pepi, Maria Jesus Salvador Taboada, Marc R. van Sambeek, Charalambos Vlachopoulos, Jose Luis Zamorano, Michael Grimm, Oktay Musayev, Agnès Pasquet, Zumreta Kušljugi, Maja Cikes, Georgios P. Georghiou, Josef Stasek, Henning Molgaard, Sirje Kõvask;, Ville Kytö, Guillaume Jondeau, Zviad Bakhutashvili, Yskert von Kodolitsch, Costas Tsioufis, András Temesvári, Ronen Rubinshtein, Francesco Antonini-Canterin, Olga Lunegova, Peteris Stradins, Elie Chammas, Regina Jonkaitiene, Andrew Cassar, Knut Bjørnstad, Kazimierz Widenka, Miguel Sousa Uva, Daniel Lighezan, Jovan Perunicic, Juraj Madaric, Isidre Vilacosta, Magnus Bäck, Abdallah Mahdhaoui, Recep Demirbag, Ivan Kravchenko

European Heart Journal, Volume 35, Issue 41, 1 November 2014, Pages 2873–2926, https://doi.org/10.1093/eurheartj/ehu281
Published: 29 August 2014

A correction has been published:
European Heart Journal, Volume 36, Issue 41, 1 November 2015, Pages 2779, https://doi.org/10.1093/eurheartj/ehv178

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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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"Re:""2014 ESC Guidelines on the diagnosis and treatment of aortic diseases"", et al., 35 (41): 2873-2926 doi:10.1093/eurheartj/ehu281"

24 March 2015 | Erbel Raimund, Department of Cardiology , Victor Aboyans, Department of Cardiology

West-German Heart Center Essen University Duisburg-Essen , CHRU Dupuytren Limoges

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 an 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.

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Submitted on 24/03/2015 8:00 PM GMT

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