

Change History Log: ESC Guidance for the Diagnosis and Management of CV Disease during the COVID-19 Pandemic

10 June 2020

- Release of the update
- Section 9.9.1 Monitoring and Follow up of Patients with CID.
 - Added as per readers' comments: "Legacy Medtronic devices can be initiated at home by the patient for remote interrogation, but alert-based monitoring of non-BlueSync Medtronic ICDs requires in-office programming on."
 - Updated: fine-tuning of the wording

28 May 2020

- Release of the update
- Section 2 Epidemiology
 - Updated: Data on cases tested positive and casualties updated to 7 May
 - Added as per readers' comments: Paragraph on case-fatality rate between countries
 - Added as per readers' comments: Analysis of 5700 patients with COVID-19 admitted to 12 hospitals in New York City, Long Island, and Westchester County (from March 1, 2020, and April 4, 2020) from Richardson et al., JAMA 2020
- Section 3 Pathophysiology
 - Corrected as per readers' comments: Language used in the pathomechanism part
 - Added as per readers' comments: Findings on ACEIs and ARBs from Mehra et al., NEJM 2020 and Zhang et al., Circ Res 2020
- Section 4 Strategies for diagnosing SARS-CoV-2
 - Corrected as per readers' comments:
 - last key point. The word key has been removed from the last key point: "Lung computed tomography (CT) imaging may be used as a ~~key~~ diagnostic test in COVID-19"
 - "lung CT as gold diagnostic standard" has been replaced by "lung CT as a comparator"
 - Corrected table 1: Missing asterisks have been added
- Section 5 Protective measures
 - Corrected as per readers' comments: Table 5 personal protection management
 - TEE has been moved from Level III to Level II protection
 - Nasopharyngeal swab has been added to level II protection
 - Corrected as per readers' comments: 5.2.5.2 NSTEMI-ACS: Sentence added: "Waiting for swab result, patients must be isolated in a dedicated and monitored ED area because of the

prevalence of asymptomatic patients with SARS-CoV-2 infection, with the aim to reduce the risk of infection spreading within the hospital.”

- Section 7. Diagnosis
 - 7.3 Biomarkers – updated as per readers’ comments: summary part on D-dimers to better highlight the possible clinical implications.
 - Section 7.4.5 Exercise testing – New subsection added per readers’ comments

- Section 9. Management/treatment pathways
 - 9.1. NSTEMI- added as per readers’ comments: “If feasible, a dedicated area to manage these patients while waiting for the test result should be arranged in the emergency department.”
 - 9.7. Hypertension- updated:
 - Wording in key points and corresponding text
 - Info coming from recent observational cohort studies (references 54-60 : Mehra et al., NEJM 2020; Bean et al., medRxiv 2020; de Abajo et al., The Lancet 2020; Li e al., JAMA Cardiol 2020; Mancia et al., NEJM 2020; Reynolds et al., NEJM 2020; Zhang et al., Circ Res 2020)
 - 9.8. Acute Pulmonary Embolism- sentence removed as per readers’ comments: “Chloroquine, a drug with a long half-life of approximately 2 weeks, has been associated with a mild inhibitive effect on P-gp, which may lower the plasma levels of the NOACs when combined; the clinical relevance of this interaction is unknown.”
 - 9.9.3.2. Bradycardia: added as per readers’ comments: publication by Azarkish et al., EHJ 2020

- Section 10. Drug interactions
 - Updated as per readers’ comments: Antimalarial drugs have a P-glycoprotein inhibiting effect, which may affect NOAC plasma levels. Some NOAC SmPCs are more stringent on P-gp interaction. This has been added to the text of paragraph 10.2. The table includes information that was derived from several drug interaction sites, which have been referenced.
 - Updated as per readers’ comments: For the interaction between Heparin and azithromycin there is a severe interaction on this website cited in the references: <https://reference.medscape.com/drug-interactionchecker>. We have also added to the text: "Drug SmPCs often do not contain information for older drugs and/or drugs with a narrow spectrum of indications (like chloroquine)." Should we decide to include only the interactions that would be supported by published references or respective SmPC, the Interaction table could be replaced by a statement that there is no solid evidence to inform co-administration of the Covid19 treatments and anticoagulants. Given the different reliable online resources, our view was that we should acknowledge mentioned interactions, with the reservations as outline above now also clearly in the text.
 - Added as per readers’ comments: Azithromycin- Reference to Westphal et al added

- Updated as per readers' comments: Atazanavir - colouring to 'yellow', and added "No data on the safety/efficacy of use of NOACs when co-administered with atazanavir are known; if their use is deemed indicated, one should consider monitoring plasma level of the NOACs in this unknown condition, in line with the recommendation that was made in the last EHRA Practical Guide."

- 10.2. Considerations on the Use of Anticoagulants in COVID-19 patients: Updated as per readers' comments:
 - AF indication: specified
 - CrCl < 15 ml/min not recommended: clarified
 - Rivaroban administration possibilities and granules: clarified
 - Apixan oral solution: deleted
 - References: corrected

- Section 11 Patient Information – Updated as per readers' comments:
 - Text 11.1 who is at risk for severe SARS-CoV-2
 - Table 17 Concomitant conditions

- List of references: Updated

24 April 2020

- Button "Download document as PDF" added on the website
- Corrected as per reviewer's comment: Author's name reference 57, Cheng X. instead of Chen X.

21 April 2020

Original version posted and tagged as "Last update on 21 April 2020"