

COVID-19 and Haemostasis

Selected Papers

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COVID-19 and Haemostasis

COVID-19 and VTE/Anticoagulation: Frequently Asked Questions

Input from Drs. Lisa Baumann Kreuziger, Agnes Lee, David Garcia, Adam Cuker, Mary Cushman, Jean M. Connors

Available from: <https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation>

Practical guidance for the prevention of thrombosis and management of coagulopathy and disseminated intravascular coagulation of patients infected with COVID-19

Prof Beverley Hunt OBE, Dr Andrew Retter, Dr Claire McClintock

This guidance from Thrombosis UK gives information to manage thrombotic risk, coagulopathy, and DIC in patients with COVID-19. This guidance will be updated weekly.

Available from: <https://thrombosisuk.org/covid-19-thrombosis.php>

Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease 2019 patients with coagulopathy

Tang N, Bai H, Chen X, Gong J, Li D, Sun Z.

J Thromb Haemost 2020 Mar 27

The authors retrospectively investigate the effect of anticoagulation on COVID-19 outcomes included 449 patients, 22% received treatment with unfractionated heparin (UFH) or LMWH. They conclude that use of anticoagulant treatment was associated with better prognosis in severe COVID-19 patients meeting sepsis-induced coagulopathy criteria with a SIC score >4 or with D-dimer markedly elevated > 3 µg/L.

Available from: <http://doi.wiley.com/10.1111/jth.14817>

COVID-19 and Haemostasis

COVID-19: Anticoagulation Recommended Even After Discharge - Guidance from consensus group and others details on use across settings

Crystal Phend

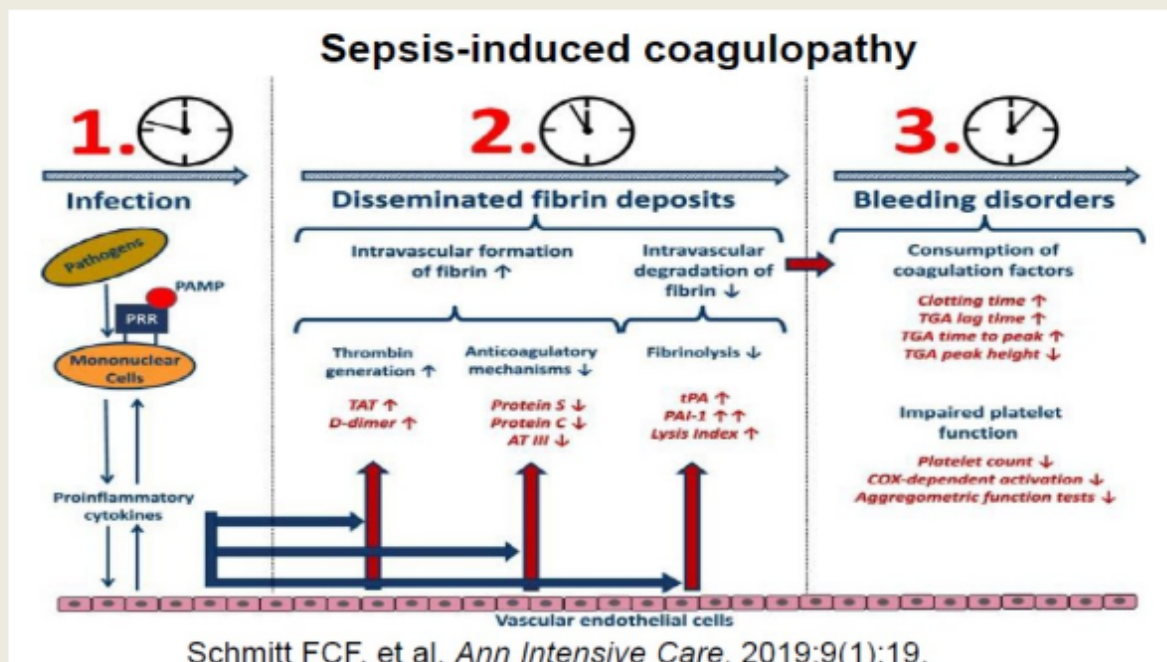
Whether coagulopathy in COVID-19 is a consequence or cause of what's happening in the lungs remains unclear. However, consensus has formed on anticoagulation treatment for hospitalized patients and sending them home with an empiric regimen.

Available from: <https://thrombosisuk.org/covid-19-thrombosis.php>

Coagulation tests In COVID-19

NingTang, Clinical laboratory of Tongjihospital

Many severe COVID-19 patients meet the sepsis criteria



In survivors only 0.6% patients meet the DIC criteria

Differential diagnosis of COVID-19 induced coagulopathy

Heparin interference:	TEG (heparinase), Anti-FXa
Vitamin K deficiency:	Coagulation factor II, VII, IX, X
TTP/HUS/ HIT:	ADAMTS13, CFH, Hep-PF4antibody..
APS/CAPS:	Antiphospholipidantibody

Conclusion:

Hypercoagulability has been found in (early) severe COVID-19, and indicates the risk of DIC and VTE. Patients meeting SIC criteria or with markedly elevated D-dimer may benefit from anticoagulant therapy. The value of special coagulation tests on monitoring and differential diagnosis of coagulopathy.

Available from:

https://academy.isth.org/isth/2020/covid-19/document?c_id=290512&type=journal_article

COVID-19 and Haemostasis

COVID-19 and Thrombotic or Thromboembolic Disease: Implications for Prevention, Antithrombotic Therapy, and Follow-up

Bikdeli B, Madhavan MV, Jimenez D, Chuich T, Dreyfus I, Driggin E, Nigoghossian CD, Ageno W, Madjid M, Guo Y, Tang LV, Hu Y, Giri J, Cushman M, Quéré I, Dimakakos EP, Gibson CM, Lippi G, Favaloro EJ, Fareed J, Caprini JA, Tafur AJ, Burton JR, Francese DP, Wang EY, Falanga A, McLintock C, Hunt BJ, Spyropoulos AC, Barnes GD, Eikelboom JW, Weinberg I, Schulman S, Carrier M, Piazza G, Beckman JA, Steg PG, Stone GW, Rosenkranz S, Goldhaber SZ, Parikh SA, Monreal M, Krumholz HM, Konstantinides SV, Weitz JI, Lip GYH

Journal of the American College of Cardiology (2020)

The authors review the current understanding of the pathogenesis, epidemiology, management and outcomes of patients with COVID-19 who develop venous or arterial thrombosis, and of those with preexisting thrombotic disease who develop COVID-19, or those who need prevention or care for their thrombotic disease during the COVID-19 pandemic

Available from: <https://doi.org/10.1016/j.jacc.2020.04.031>

Abnormal coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia

Ning Tang, Dengju Li, Xiong Wang, Ziyong Sun

J Thromb Haemost. 2020;18:844–847.

The present study shows that abnormal coagulation results, especially markedly elevated D-dimer and FDP are common in deaths with NCP. DIC, mostly due to virus sepsis, appeared in most of the non-survivors.

Based on this publication the British Society of Haematology published a guidance in BSH Haemostasis and Thrombosis Task Force. 2020 Mar 18. This document indicates abnormal coagulation parameters can be a useful predictor of prognosis in pneumonia due to COVID-19.

Available from: <https://onlinelibrary.wiley.com/doi/10.1111/jth.14768>

Uncertainties on the prognostic value of D-dimers in COVID-19 patients

Christophe Gris, Isabelle Quéré, Antonia Pérez-Martin, Jean-Yves Lefrant, Albert Sotto.

JTH 2020 doi: 10.1111/JTH.14876

In this letter to the editor the authors comment on a possible selection bias and that impact of the modalities and intensities of the antithrombotic/anticoagulant treatments given to the patients on the D-dimer predictive value is not studied. The underlying meaning of increased D-dimer levels in COVID-19 patients must be clearly understood, the prevailing interpretation has been coagulation activation finally leading to DIC, which is probably true in the most severe patients and near fatal outcome but which is far to be demonstrated in the initial disease despite striking high D-Dimer levels. This has strong clinical consequences, as the observed high D-dimer levels have induced spontaneous therapeutic interventions and experts' recommendations increasing the antithrombotic/anticoagulant dosages, thus increasing the haemorrhagic risk. The mechanisms, determinants, roots and independent value of increased D-dimers in Covid-19 patients must be fully understood in order to propose the most pathophysiologically relevant treatments to test.

Available from: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jth.14876>