

Blood clotting a significant cause of death in patients with COVID-19

April 30 2020



Professor James O'Donnell, Director of the Irish Centre for Vascular Biology, RCSI University of Medicine and Health Sciences and Consultant Haematologist in the National Coagulation Centre in St James's Hospital, Dublin. Credit: Maxwell Photography

A study led by clinician scientists at RCSI University of Medicine and Health Sciences has found that Irish patients admitted to hospital with severe COVID-19 infection are experiencing abnormal blood clotting that contributes to death in some patients.

The study, carried out by the Irish Centre for Vascular Biology, RCSI and St James's Hospital, Dublin, is published in current edition of the *British Journal of Haematology*.

The authors found that abnormal [blood](#) clotting occurs in Irish patients with severe COVID-19 infection, causing micro-clots within the lungs. They also found that Irish patients with higher levels of blood clotting activity had a significantly worse prognosis and were more likely to require ICU admission.

"Our novel findings demonstrate that COVID-19 is associated with a unique type of blood clotting disorder that is primarily focussed within the lungs and which undoubtedly contributes to the high levels of mortality being seen in patients with COVID-19," said Professor James O'Donnell, Director of the Irish Centre for Vascular Biology, RCSI and Consultant Haematologist in the National Coagulation Centre in St James's Hospital, Dublin.

"In addition to pneumonia affecting the small air sacs within the lungs, we are also finding hundreds of small blood clots throughout the lungs. This scenario is not seen with other types of lung infection, and explains why blood oxygen levels fall dramatically in severe COVID-19 [infection](#)

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"Understanding how these micro-clots are being formed within the [lung](#) is critical so that we can develop more effective treatments for our patients, particularly those in high risk groups.

"Further studies will be required to investigate whether different blood thinning treatments may have a role in selected high risk patients in order to reduce the risk of clot formation," Professor O'Donnell said.

Emerging evidence also shows that the abnormal blood-clotting problem in COVID-19 results in a significantly increased risk of heart attacks and strokes.

More information: Helen Fogarty et al, COVID-19 Coagulopathy in Caucasian patients, *British Journal of Haematology* (2020). [DOI: 10.1111/bjh.16749](https://doi.org/10.1111/bjh.16749)

Provided by RCSI

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