Category :**Hematology: Other**

A125 - ***Impaired fibrinolysis is implicated in mortality in Covid-19 infection***

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Introduction:

A significant degree of mortality and morbidity in Covid-19 is due to thromboembolic disease. Changes in coagulation markers have been well described in critically unwell patients on ICU. There is less clear evidence regarding these changes at the time of presentation to the Emergency Department and the progression of disease over time. We sought to investigate how coagulation markers change over the course of Covid-19 infection and whether they might predict disease severity.

Methods:

Patients were recruited from a single University Teaching Hospital ED at the time of presentation. Those with a positive PCR test were followed up throughout their stay. Rotational Thromboelastometry (ROTEM) was performed on arrival, after 24 hours, 3-5 days and 7 days, alongside routine haematological and biochemical testing.

ROTEM values at each of these time points were analysed, and compared. Length of stay and patient outcome were also recorded for subgroup analysis. The ROTEM parameters selected for analysis were both EXTEM and INTEM Clotting Time (CT), Clot Formation Time (CFT), Maximal Clot Firmness (MCF), Alpha Angle (Alpha) and Maximum Lysis Percentage (ML). This reflects clot formation kinetics, mechanical strength and clot breakdown via both extrinsic and intrinsic pathways.

Results:

EXTEM (7.64±5.53 vs 11.83±6.30) and INTEM ML (4.69±3.55 vs 9.95±5.22) were significantly reduced in those who died vs patients with a prolonged hospital stay. Over time there were no patterns of change to ROTEM values in any outcome group.

Conclusion:

Comparisons between groups demonstrated that one distinguishing feature between those who require ICU admission or die of Covid-19 compared with those who survive a prolonged hospital stay to discharge was the extent to which fibrinolysis could occur. Failure to break clots down could be a significant mechanism in the mortality and morbidity of Covid-19.