Routine Venous Thromboembolism Prophylaxis May Be Inadequate in the Hypercoagulable State of Severe COVID-19

**Objective**
To determine the incidence of VTE in critically ill COVID-19 patients and associate a degree of inflammatory marker elevation to VTE development.

**Design**
An observational study that identified patients with severe COVID-19 between 3/12/20 - 3/31/20.

**Setting**
A multicenter study including 3 Indianapolis area academic hospitals.

**Patients**
240 consecutive patients with confirmed SARS-CoV-2 infection were admitted to 1 of 3 hospitals. 109 critically ill COVID-19 patients admitted to the ICU were included in the analysis.

**Intervention**
All patients received routine subcutaneous chemical VTE prophylaxis.

**Results**

<table>
<thead>
<tr>
<th>Patients</th>
<th>VTE 28%</th>
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<tbody>
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<td>109</td>
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- 69% Discharged Home
- 6% in Hospital
- 25% Died

Dx 8±7 days after Admission
2 Patients on admission

Elevated Admission D-dimer and Peak D-dimer were associated with VTE development \( p < 0.05 \)

D-dimer > 2,600 ng/mL predicted VTE
Area under the ROC curve of 0.760
95% CI, 0.661 – 0.858; \( p < 0.0001 \)
Sensitivity 89.7%, Specificity 59.5%

12 patients (11%) had TEG
58% Hypercoagulable study
50% Hypercoagulable on Coagulation Index

Data from Maatman TK, et al: Crit Care Med, 2020