The STARS Study: Does tPA Improve Pulmonary Function in Severe COVID-19 Respiratory Failure and Is It Safe?

**STUDY DESIGN**

Randomized, open-label, rapidly adaptive controlled trial in intubated patients with COVID-19 respiratory failure

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>PHASE 2</th>
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<tbody>
<tr>
<td>tPA bolus 50mg IV followed by 7 days of heparin drip (n=19)</td>
<td>tPA bolus and tPA drip x 24 hours followed by 7 days of heparin drip (n=8)</td>
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</tbody>
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| CONTROL | VS | (n=17) | VS | (n=8) |

**RESULTS**

- **In tPA bolus patients** PaO2/FiO2 ratio **significantly higher** than baseline at 6 through 168 hours (p<0.017)

- **tPA-drip patients did not** experience benefit

- **There were no severe bleeding** events in any cohort

A combination of tPA given as a bolus followed by 7 days of therapeutic anticoagulation with heparin in patients with severe COVID-19 respiratory failure is safe and improves oxygenation.

Barrett C, et al. CHEST March 2022  |  @journal_CHEST  |  https://doi.org/10.1016/j.chest.2021.09.024
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