

- [Paper](#)
- Primary Outcomes
- Secondary Outcomes
- Reported Result
 - “When compared with AC alone, CDT had lower mortality but high major bleeding and numerically higher ICH”
 - “The risk of mortality and ICH was high with ST when compared with CDT.
 - Findings were similar when analysis was restricted to intermediate risk PE.

Problems

The Definition of Risk Groups is not Stated

- Uses “intermediate risk,” “high risk”, and “intermediate-high risk,” thus mixing terminologies
 - **2019 ESC:** low, intermediate-low, intermediate-high, high
 - **2011 AHA:** massive, sub-massive, low risk
 - **2016 CHEST:** low high, PE without hypotension, PE with hypotension

Very few RCT patients got CDT

Total Papers (n=45)		
patient_type	number	percent
AC	19976	24.4%
CDT	9610	11.8%
ST	52119	63.8%
total	81705	NA

Intermediate-Risk Papers (n=20)		
patienttype^number^percent^	AC 8873 75.9%	CDT 1929 16.5%
total 11685 14.3% (of \$n{total}\$)	ST 883 7.5%	

RCT Trials Only (n=17)		
patienttype^number^percent^	AC 1101 49.8%	CDT 78 3.5%
total 2210 2.7% (of \$n{total}\$)	ST 1031 46.7%	

This means that the number of CDT patients from RCTs is only $\frac{n\{CDT\}}{n\{total\}} = \frac{78}{81611} = 0.096\%$ of the study total!!

The Primary Outcome is not reported correctly, given likely intransitivity

The paper utilized a network meta-analysis ([1,2,3](#)).

They list that “[t]he primary analysis compared CDT and systemic fibrinolysis with AC alone.” However, they combine RCTs, prospective, and retrospective studies, raising serious questions of intransitivity.

Statistical Issues

No attempts to control family-wise error rate

They had to change their statistical analysis strategy

Interestingly, they do NOT report p values for their efficacy outcome – just 95% CI.

Publication inconsistency for their efficacy outcome was significant ($p = 0.036$), but there was no inconsistency at the loop level using a loop inconsistency plot.

Thus, they had to perform a direct meta-analysis. For this analysis, they reported p values (?!). Why would they only report p-values for a “backup” analysis method.

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