- 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 morality 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)
patient*type^number^percent^ |AC|8873|75.9%| |CDT|1929|16.5%| |ST|883|7.5%| |total|11685|14.3% (of $n*{total}$)
RCT Trials Only (n=17)
patient*type^number^percent^ |AC|1101|49.8%| |CDT|78|3.5%| |ST|1031|46.7%| |total|2210|2.7% (of $n*{total}$)

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

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 report the CDT vs AC and ST vs AC outcomes, not the network of all three.

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.