

Outline

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Disclosures

• I have no relevant financial disclosures to this presentation

Abbreviations Used

- DOACs direct acting oral anticoagulants
- VKA vitamin K antagonists
- $\bullet \ \mathsf{VTE} \mathsf{venous} \ \mathsf{thromboembolism}$
- RR risk ratio
- RCT randomized controlled trials

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Introduction

- DOACs have become the standard of care in treatment of acute VTE per recent CHEST guidelines
- Prior RCTs of the DOAC cite superior efficacy and safety compared to VKAs in the treatment of acute VTE across all subgroups
- Prior meta-analysis suggests age-related difference in safety of DOACs compared to VKA in elderly patients treated for acute VTE but not efficacy
- Given the small number of elderly patients (>75) included in this prior meta-analysis, it is unclear whether there are age-related differences in efficacy also.

Aim

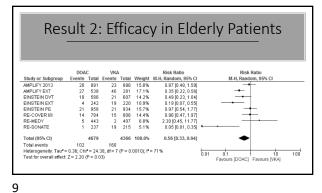
 To evaluate the effect of age on the efficacy and safety of DOACs used in the treatment of acute VTE in elderly (> 65 years old) vs. nonelderly (< 65 years old) patients.

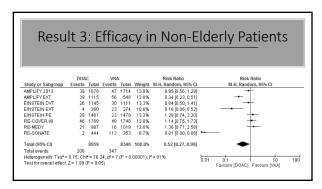
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Methodology

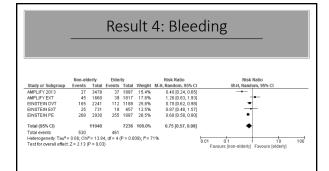
- Systematically searched multiple databases (PubMed, Medline, Scopus)
- Included randomized controlled trials that used DOACs for treatment of venous thromboembolism and reported outcomes by age
- Pooled RRs for the outcome of recurrent VTE and bleeding using random effects model

Result 1: Incidence of Recurrent VTE							
	-						
	Elderly (> 65)	Non-elderly	(< 65)		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
AMPLIFY 2013	43	1787	86	3392	13.6%	0.95 [0.66, 1.36]	+
AMPLIFY EXT	67	819	95	1663	14.2%	1.43 [1.06, 1.94]	
EINSTEIN DVT	31	1193	56	2256	12.9%	1.05 [0.68, 1.61]	+
EINSTEIN EXT	23	462	27	734	11.6%	1.35 [0.79, 2.33]	+-
EINSTEIN PE	42	1892		2940	13.2%		+-
RE-COVER I/II	29	1590			13.0%		 +
RE-MEDY	7	850		2006	8.9%		
	20	452	114	797	12.6%	0.31 [0.20, 0.49]	-
RE-SONATE				47005	100.0%	0.87 [0.60, 1.24]	*
		9045		1/305			
RE-SONATE	262	9045	553	1/305	100.070	()	
					100.0%	0.87 [0.60, 1.24]	•





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Conclusions

- No clinically significant difference in incidence of recurrent VTE in elderly vs. non-elderly patients
- DOAC use is associated with greater efficacy compared to VKA for treatment of VTE in elderly vs. non-elderly patients
- DOAC use is associated with significantly less major and clinically relevant non-major bleeding in non-elderly patients
- Significant heterogeneity between studies suggest further trials may be required to more adequately assess the benefit vs. risk of DOAC use in elderly patients.

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