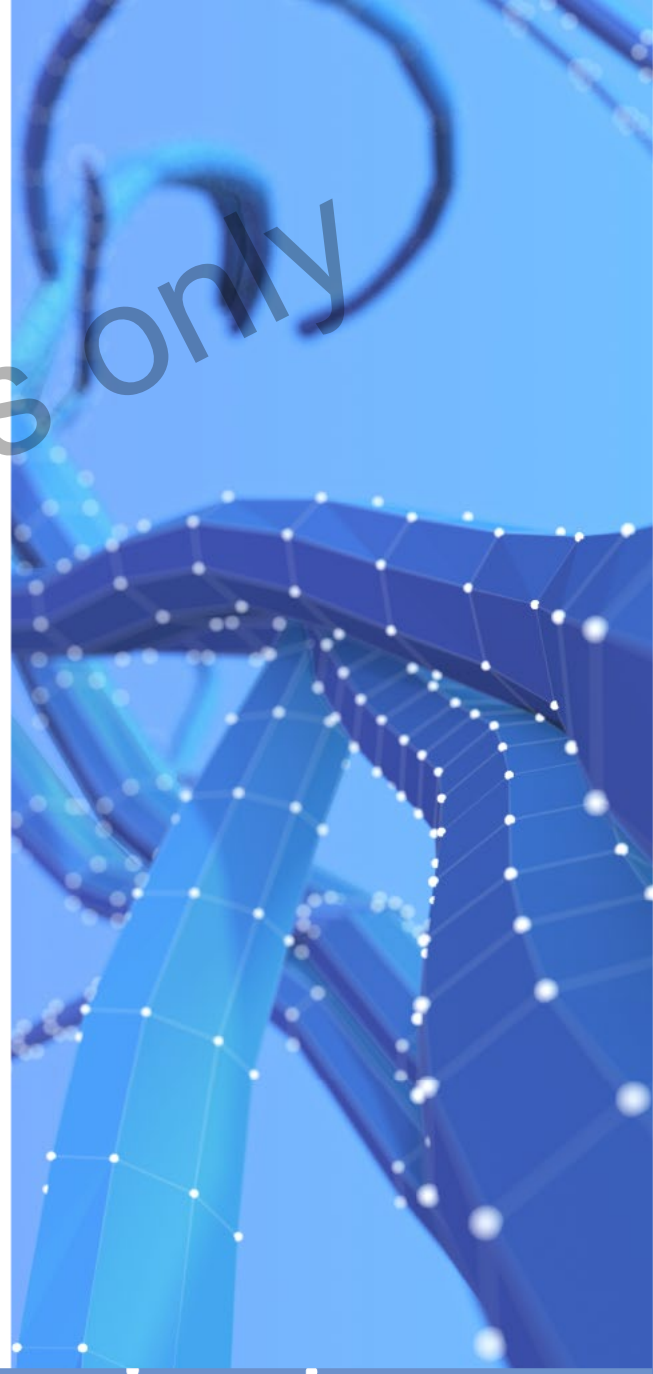
What if? Protecting your patients with NVAF from stroke, no matter their journey

EHRA, Copenhagen,
Sunday 3 April 2022,
10:55–11:40 CEST



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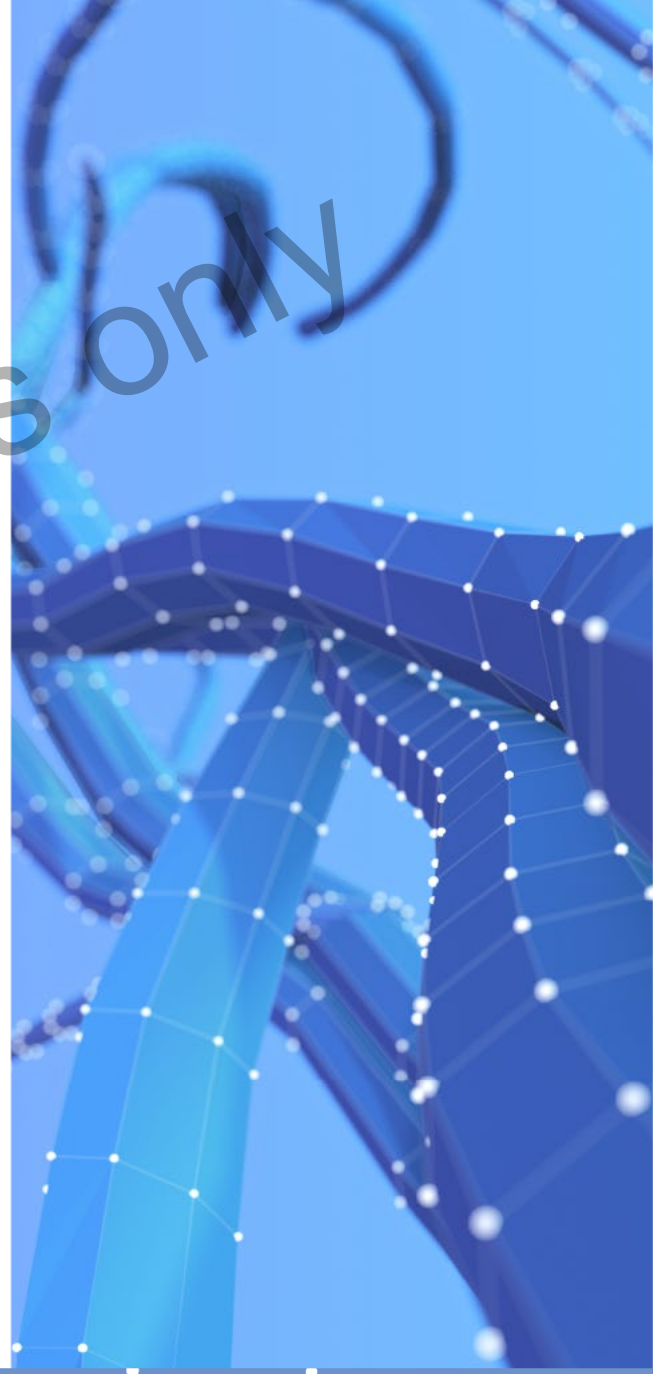
Stroke prevention in NVAF: Over 10 years of NOACs

A. John Camm



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Disclosures – A. John Camm

- **Guidelines:** Chairman: ESC guidelines on AF, 2010, and Update, 2012; ACC/AHA/ESC guidelines on VAs and SCD, 2006; NICE guidelines on ACS and NSTEMI, 2012; NICE guidelines on heart failure, 2008; Member: NICE guidelines on AF, 2006; ESC guidelines on VA and SCD, 2015; Reviewer: AHA/ACC/HRS guidelines on AF, 2014; ACC/AHA/HRS guidelines on SVT, 2015; ESC guidelines on AF, 2016
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- **Editorial role:** Editor-in-Chief, *European Heart Journal - Case Reports* and *Clinical Cardiology*; Editor, *European Textbook of Cardiology* and *ESC CardioMed*
- **Charities:** Trustee of the Drug Safety Research Unit, the Atrial Fibrillation Association and the Arrhythmia Alliance
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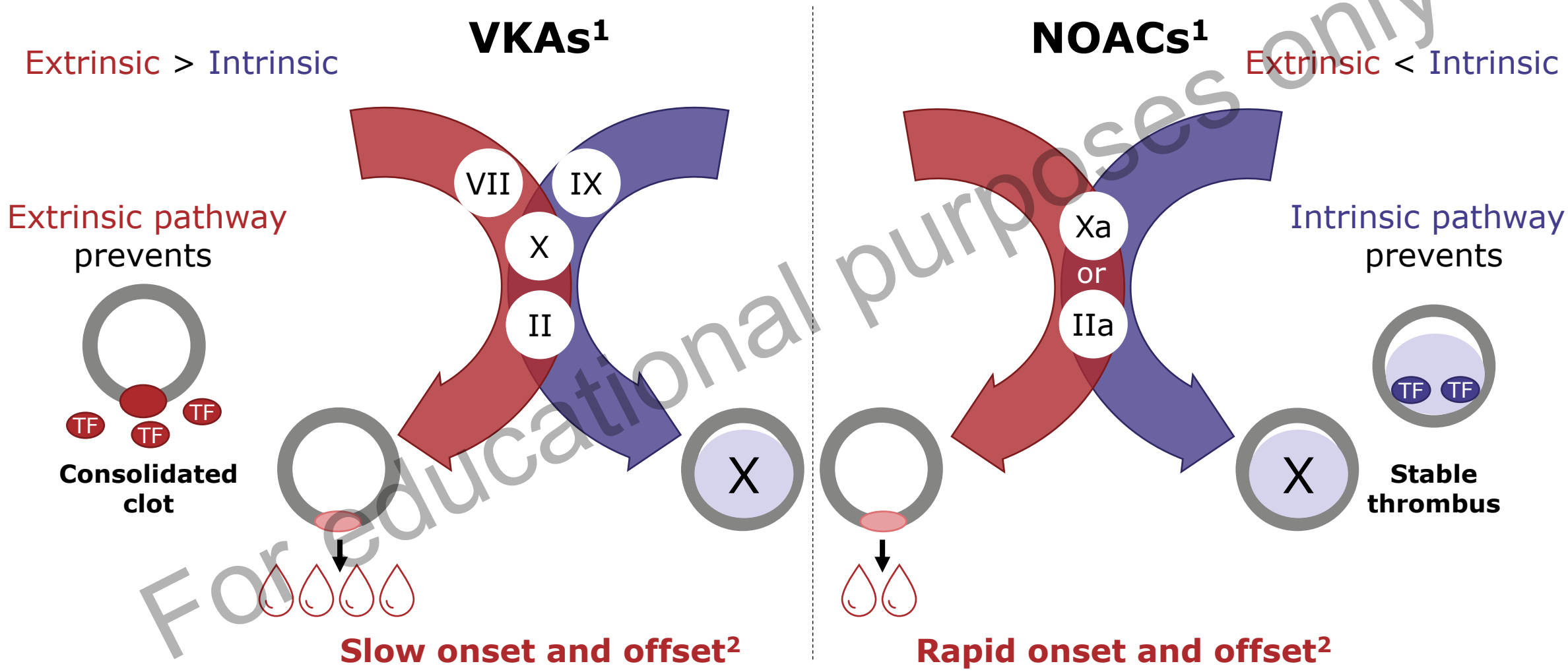
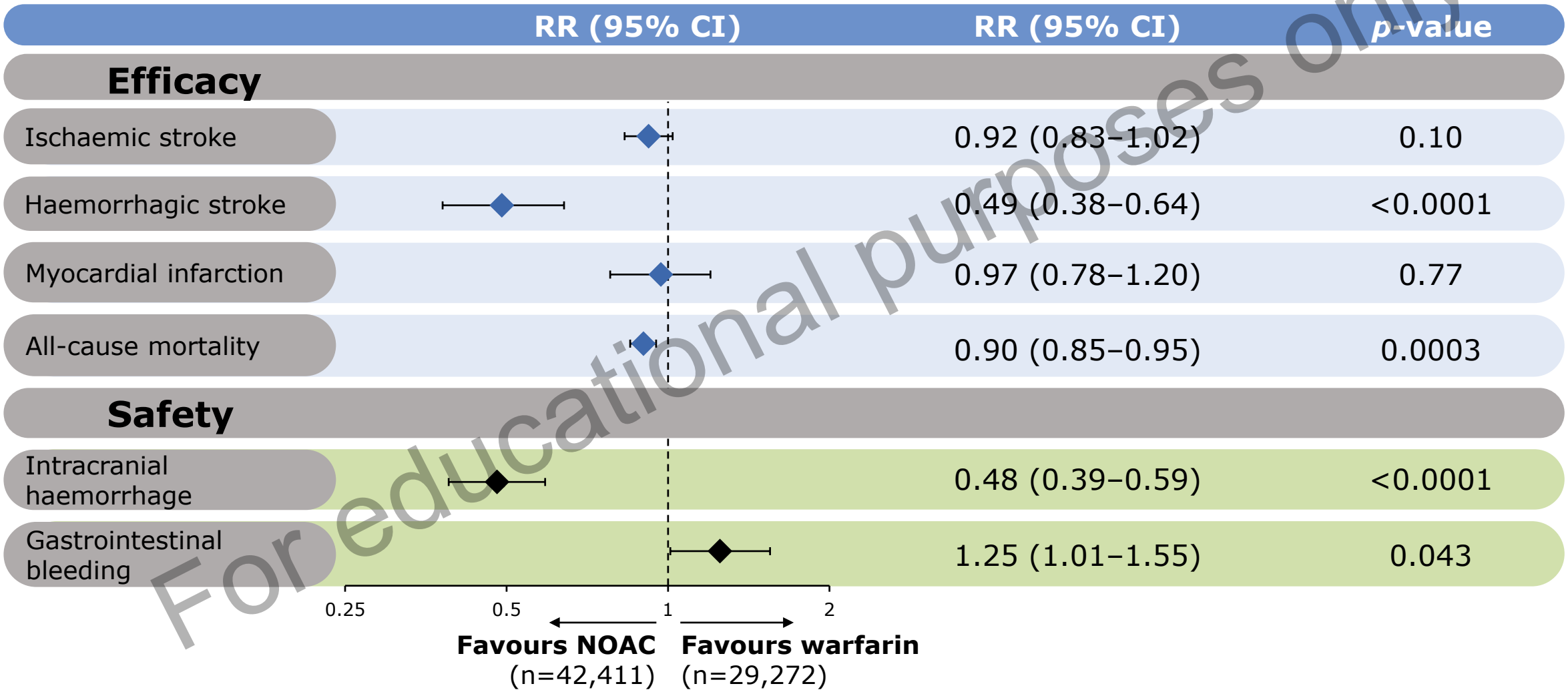
Impact of VKAs and NOACs on haemostasis versus thrombosis[1]



Modified from Hsu *et al*. 2021.[1]

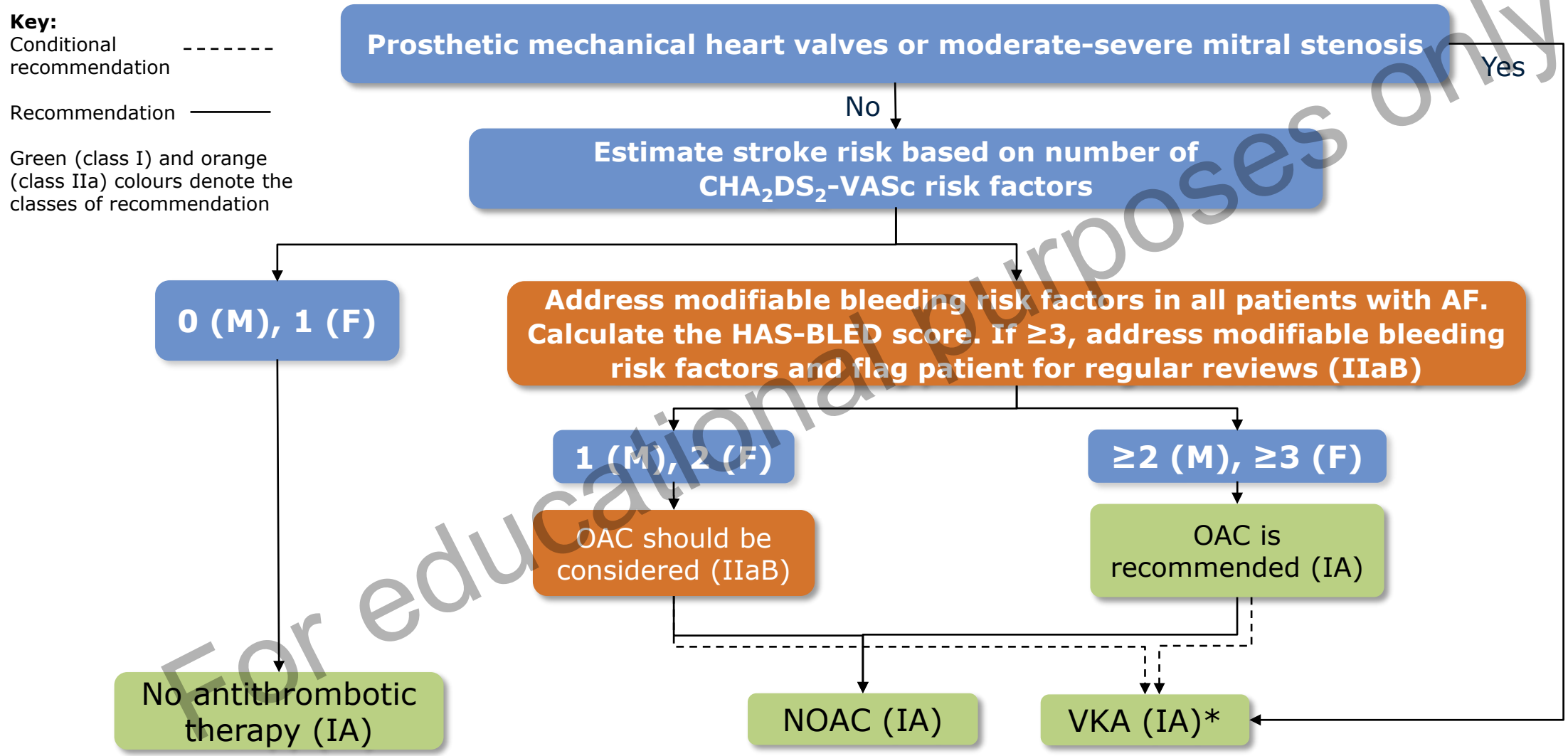
1. Hsu C *et al. J Am Coll Cardiol* 2021;78:625–631; 2. Mekaj YH *et al*. *Ther Clin Risk Manag* 2015;11:967–977.

Efficacy versus safety
DOAC 4-trial meta-analysis: Full dose



Ruff C *et al. Lancet* 2014;383:955–962.

The ESC provides guidance on the use of anticoagulation in patients with AF

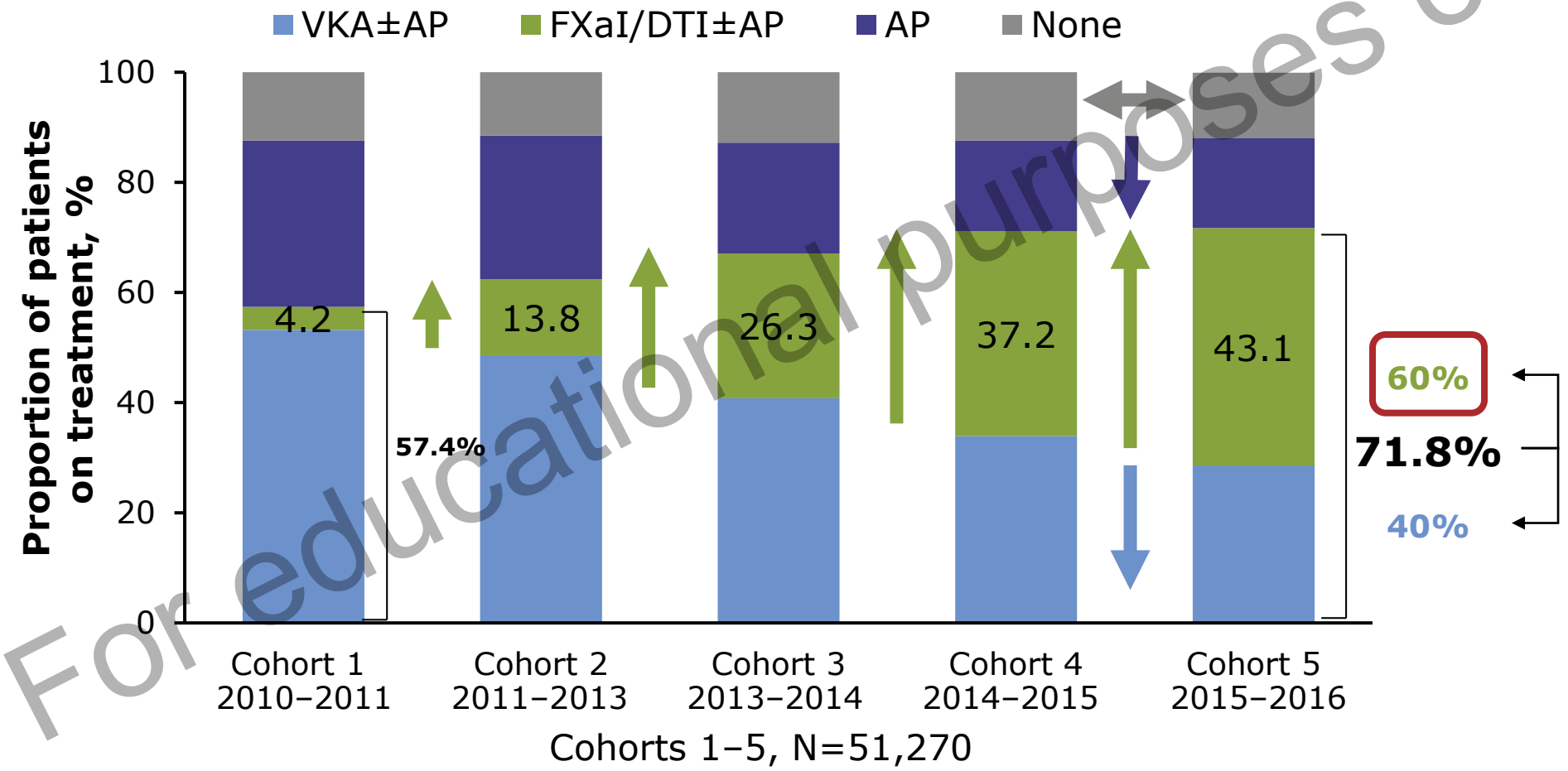


*With high time in therapeutic range.

Hindricks *et al. Eur Heart J* 2021;42:373–498.

GARFIELD-AF
Primary analyses – Treatment patterns

Records evolving trends in baseline anticoagulant treatment for patients enrolled in sequential cohorts of GARFIELD-AF



Garfield-AF Ambassadors. Garfield-AF Ambassadors Meeting. London, United Kingdom, 21 October 2016. https://af.garfieldregistry.org/wp-content/uploads/2017/09/Final-slides-AF-NCI-2016.pdf [accessed 8 March 2022].

Who and how to anticoagulate

NICE clinical guideline (NG196)

1.6.3 ***Offer anticoagulation with a DOAC*** to people with AF and a ***CHA_2DS_2-VASc score of 2 or above***, taking into account the risk of bleeding. Apixaban, dabigatran, edoxaban and rivaroxaban are all recommended as options, when used in line with the criteria specified in the relevant NICE technology appraisal guidance (see the NICE technology appraisal guidance on our topic page on embolism and thrombosis). [2021]

1.6.5 ***If DOACs are contraindicated, not tolerated or not suitable*** in people with AF, ***offer a VKA***. (See the section on self-monitoring and self-management of VKAs.) [2021]

1.6.6 ***For adults with AF who are already taking a VKA and are stable***, continue with their current medication and ***discuss the option of switching treatment at their next routine appointment***, taking into account the person's time in therapeutic range. [2021]

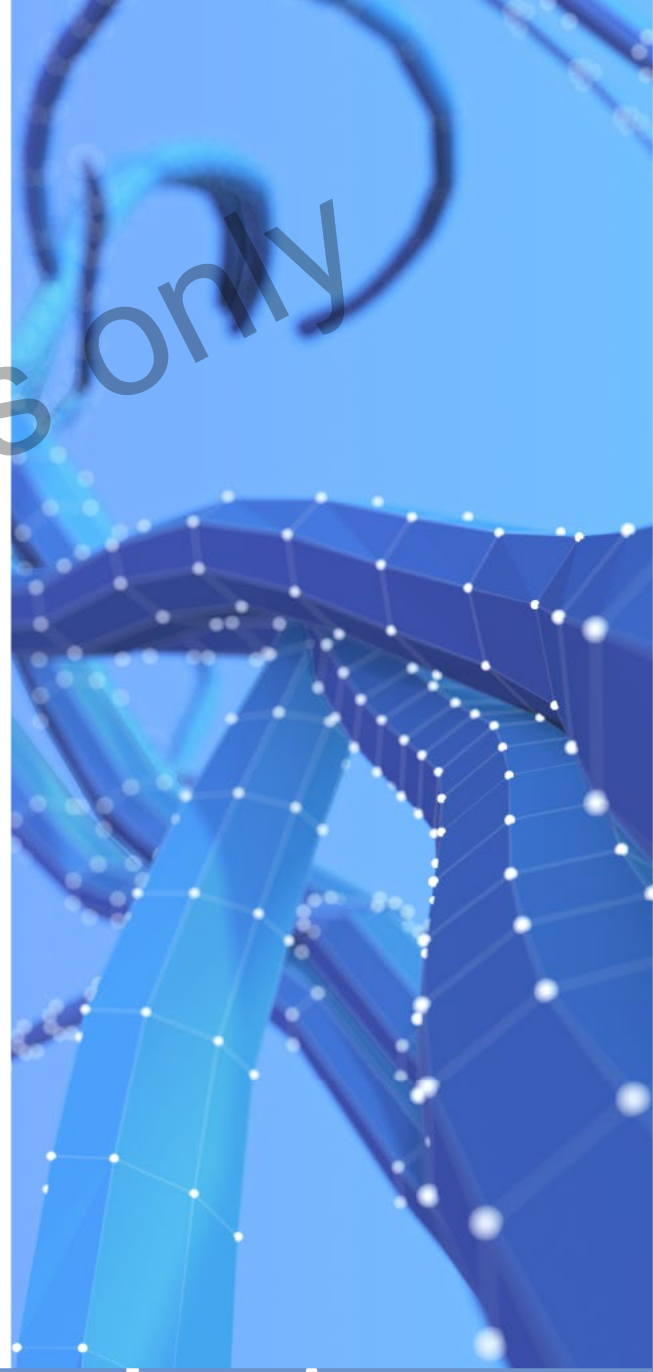
National Institute for Health and Care Excellence (NICE). 2021. https://www.nice.org.uk/guidance/NG196 [accessed 8 March 2022].

Programme

Should your patients with diabetes be screened for AF?	A. John Camm and Emma Svennberg
What if your patient with NVAF requires an elective PCI?	Emma Svennberg and Keith Fox
What if your patient with AF has CKD?	Keith Fox and Tatjana Potpara
What if your patient with NVAF was older?	Tatjana Potpara and A. John Camm
Live Q&A	All (moderated by A. John Camm)

Should your patients with diabetes be screened for AF?

A. John Camm and Emma Svennberg



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Disclosures

Professor Camm

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Dr Svennberg

- **Consultant/Advisor/Speaker – Institutional:** Bayer, Boehringer Ingelheim, Bristol-Myers Squibb/Pfizer Alliance, Johnson-Johnson, Merck Sharp & Dohme

Meet Julia

NVAF

72 years old

Diabetes

Should Julia be screened for atrial fibrillation?

Why is screening patients like Julia for AF so important?

Patients with diabetes and AF have an increased risk of adverse outcomes vs patients without diabetes

- 28% increased risk of death
- 11% increased risk of ischaemic stroke
- 19% increased risk of heart failure
- 25% increased risk of MI
- 12% increased risk of bleeding

326,832 patients with NVAF identified across four Swedish National Registers between 2006–2012. 57,953 patients had concomitant diabetes.
Karayiannides S *et al*. *Diab Vasc Dis Res* 2018;15:31–38.

The earlier you can detect AF in your patients, the more time you have to provide them with the care they need

Screening for AF by pulse palpation should be considered in patients aged >65 years with DM and confirmed by ECG, if any suspicion of AF, as AF in patients with DM increases morbidity and mortality

Class IIa Level of evidence C

– 2019 ESC/EASD guidelines on diabetes, pre-diabetes and CV diseases[1]

Opportunistic screening for AF by pulse taking or ECG rhythm strip is recommended in patients >65 years of age

Class I Level of evidence B

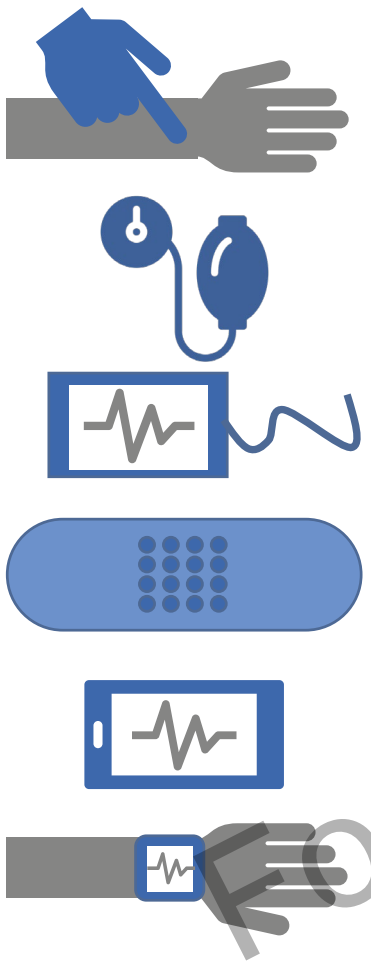
Systematic ECG should be considered to detect AF in individuals aged ≥75 years, or those at high risk of stroke

Class IIa Level of evidence B

– 2020 ESC Guidelines on Management of AF[2]

1. Cosentino F *et al*. *Eur Heart J* 2020;41:255–323; 2. Hindricks G *et al*. *Eur Heart J* 2021;42:373–498.

AF can be detected using a multitude of screening tools



Screening tools	Sensitivity, %	Specificity, %
Pulse taking[1]	87–97	70–81
Automated BP monitors[1]	93–100	86–92
Single-lead ECG[1]	94–98	76–95
Patch[2]	93–97	96–99
Smartphone apps[1]	92–99	91–100
Watches[1]	97–99	83–94

Considering the 12-lead ECG as the gold standard.

1. Hindricks G *et al*. *Eur Heart J* 2021;42:373–498; 2. Hermans ANL *et al*. *Clin Res Cardiol* 2021. doi: 10.1007/s00392-021-01941-9.

More convenient options to detect AF are now available for your patients following technological developments

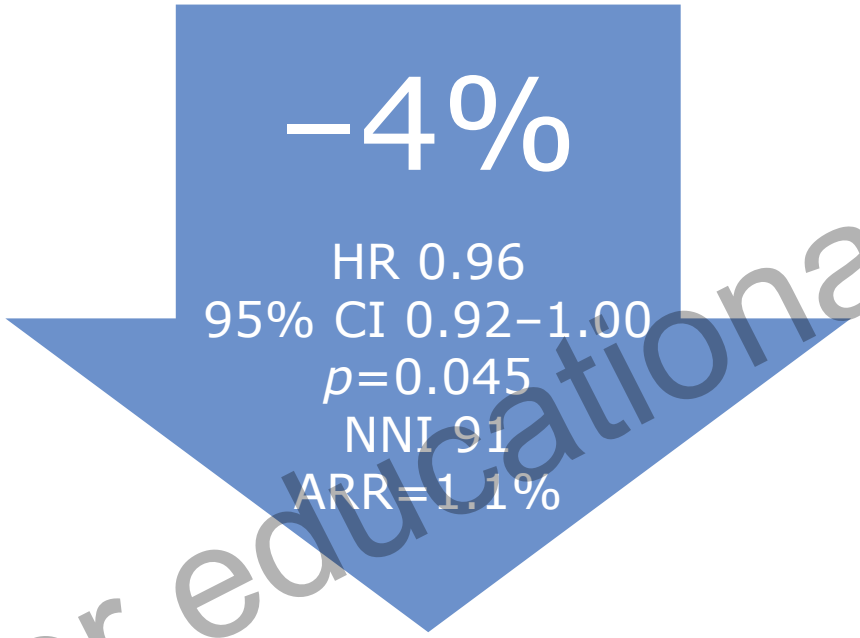
	Apple® Heart Study[1]	Fitbit® Heart Study[2]
Duration, months	8	NS
Population	Consumers aged ≥22 years without diagnosed AF	Consumers aged ≥22 years without diagnosed AF
Device	PPG watch and ECG patch	PPG band/watch and ECG patch (for one week)
Participants, N	419,297	455,699
Female, %	42	71
Aged ≥65 years, %	6	13
Results		
App notification of irregular heart rhythm detection, n	86	225
ECG patch confirmation of AF, n	72	221
Positive predictive value, %	84	98

1. Perez MV *et al*. *N Engl J Med* 2019;381:1909–1917; 2. Lubitz S *et al*. AHA. Virtual. 13–15 November 2021. Late-breaking presentation LBS.04. https://www.crtonline.org/presentation-detail/detection-of-atrial-fibrillation-in-large-populati [accessed 17 Feb 2022].

Awareness of your patient's AF means you can act to safeguard them from potentially devastating outcomes

- STROKESTOP – Multicentre, parallel group unmasked RCT in Swedish patients aged 75–76 years
- 13,979 patients were invited to be screened for AF using a single-lead ECG and 13,996 were assigned as controls

Primary combined endpoint



Randomized to screening
versus randomized to control

Ischaemic stroke
Systemic embolism
Haemorrhagic stroke

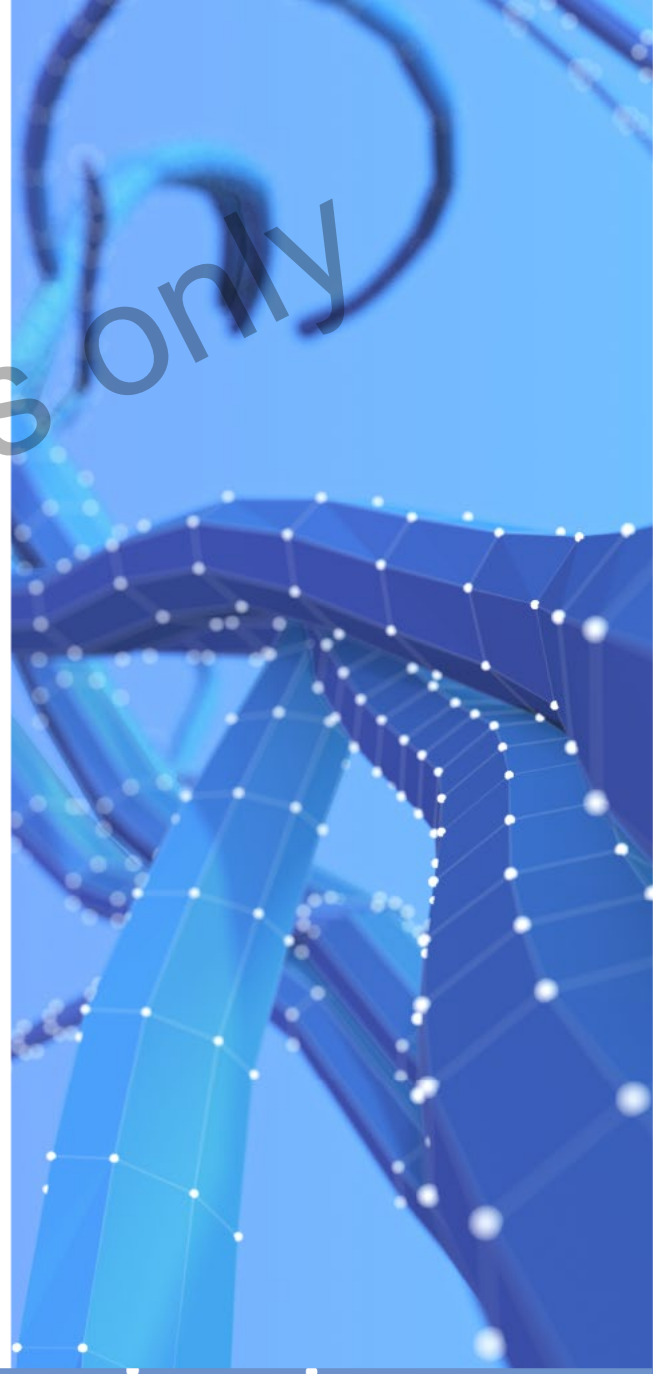
Death from any cause

Hospitalization for bleeding

Svennberg E *et al*. *Lancet* 2021;398:1498–1506.

What if your patient with NVAF requires an elective PCI?

Emma Svennberg and Keith Fox



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Disclosures

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- Consultant/Advisor/Speaker – Institutional
  - Bayer, Boehringer Ingelheim, Bristol Myers Squibb/Pfizer Alliance, Johnson-Johnson, Merck Sharp & Dohme

Professor Fox

- Research grants
  - Bayer/Janssen, AstraZeneca
- Consulting
  - Bayer, Sanofi/Regeneron, AstraZeneca

Julia has NVAF and additional risk factors: How can we reduce her risks?

NVAF

Diabetes

WHAT IF?

Elective PCI

CKD

Older age

This is a fictitious patient case for educational purposes only

Julia has NVAF and additional risk factors: How can we reduce her risks?

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What factors contribute to future risks for our patients with NVAF?

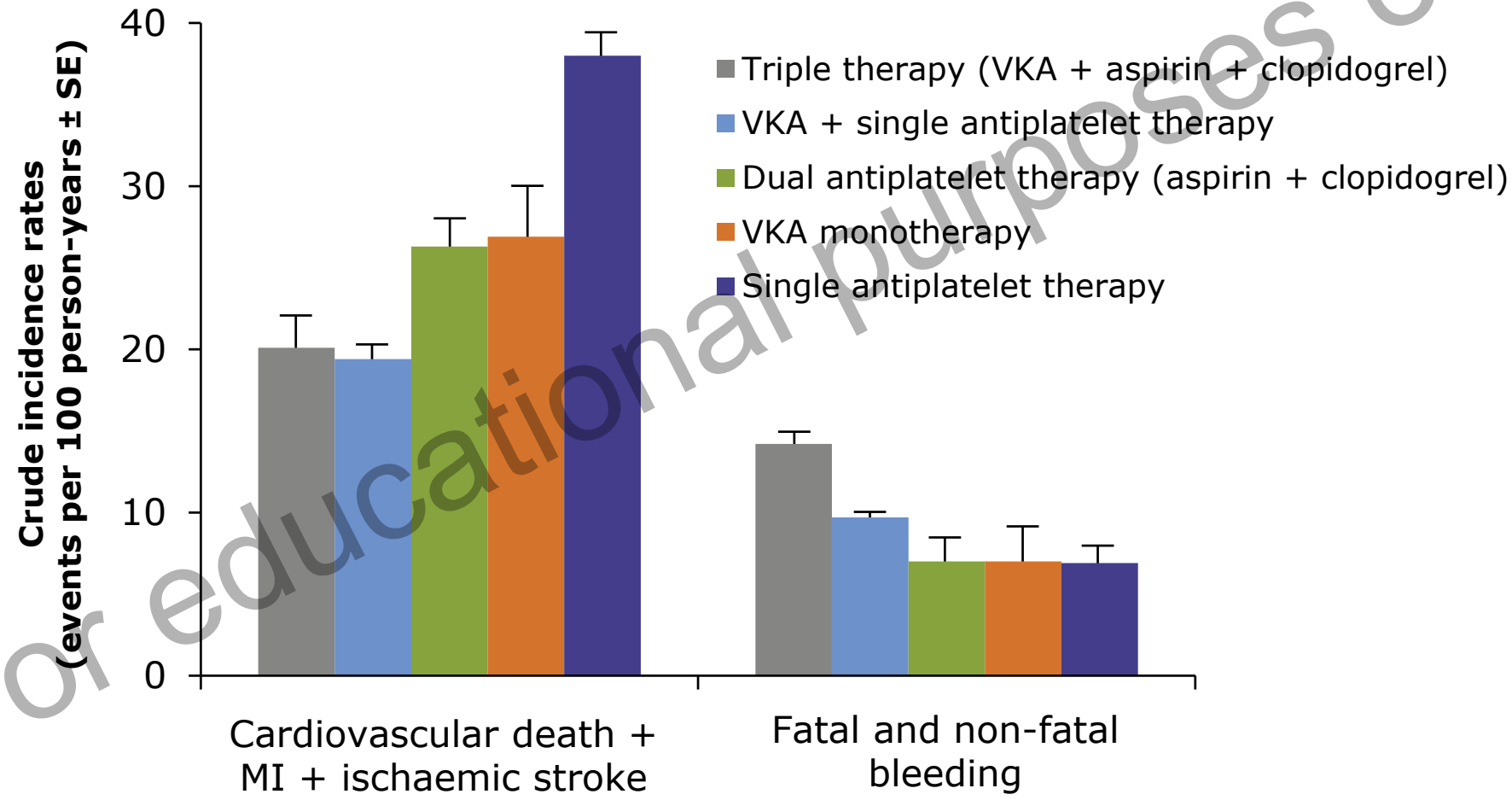
Risk factors for stroke/SE and major bleeding in 28,628 patients from the GARFIELD-AF registry[1]

	Stroke/SE[1]	Major bleeding*,[1.2]
	Event rate per 100 person-years (95% CI)	
All patients	1.27 (1.18–1.38)	0.71 (0.64–0.79)
	Adjusted HR (95% CI)	
Female	1.29 (1.08–1.54)	1.14 (0.90–1.45)
Age, years		
65–69	1.53 (1.14–2.04)	1.30 (0.86–1.96)
70–74	1.84 (1.41–2.40)	1.88 (1.30–2.70)
≥75	2.32 (1.84–2.93)	2.49 (1.81–3.42)
Diabetes	1.23 (1.03–1.47)	0.92 (0.71–1.18)
Hypertension	1.07 (0.85–1.35)	1.01 (0.74–1.36)
Vascular disease	1.35 (1.11–1.64)	1.39 (1.07–1.80)
Kidney disease	1.62 (1.32–1.98)	1.74 (1.34–2.26)
Cardiac failure	1.33 (1.12–1.58)	1.07 (0.84–1.36)

*Defined as clinically overt bleeding associated with a critical site or haemorrhagic stroke, a fall in haemoglobin of ≥2 g/dl, transfusion of ≥2 units of packed red blood cells, or fatal outcome.
Reference groups from top: Age <65 years, Male, no history of disease (for diabetes, hypertension, vascular disease, kidney disease and cardiac failure).
1. Bassand JP *et al*. *PLoS One* 2018; doi: 10.1371/journal.pone.0191592; 2. Thrombosis Research Institute. 2021. https://clinicaltrials.gov/ct2/show/NCT01090362 [accessed 11 March 2022].

What do we need to consider about the treatment of patients with NVAF undergoing PCI?

Retrospective Danish registry data (2001–2009; N=11,480 patients*)

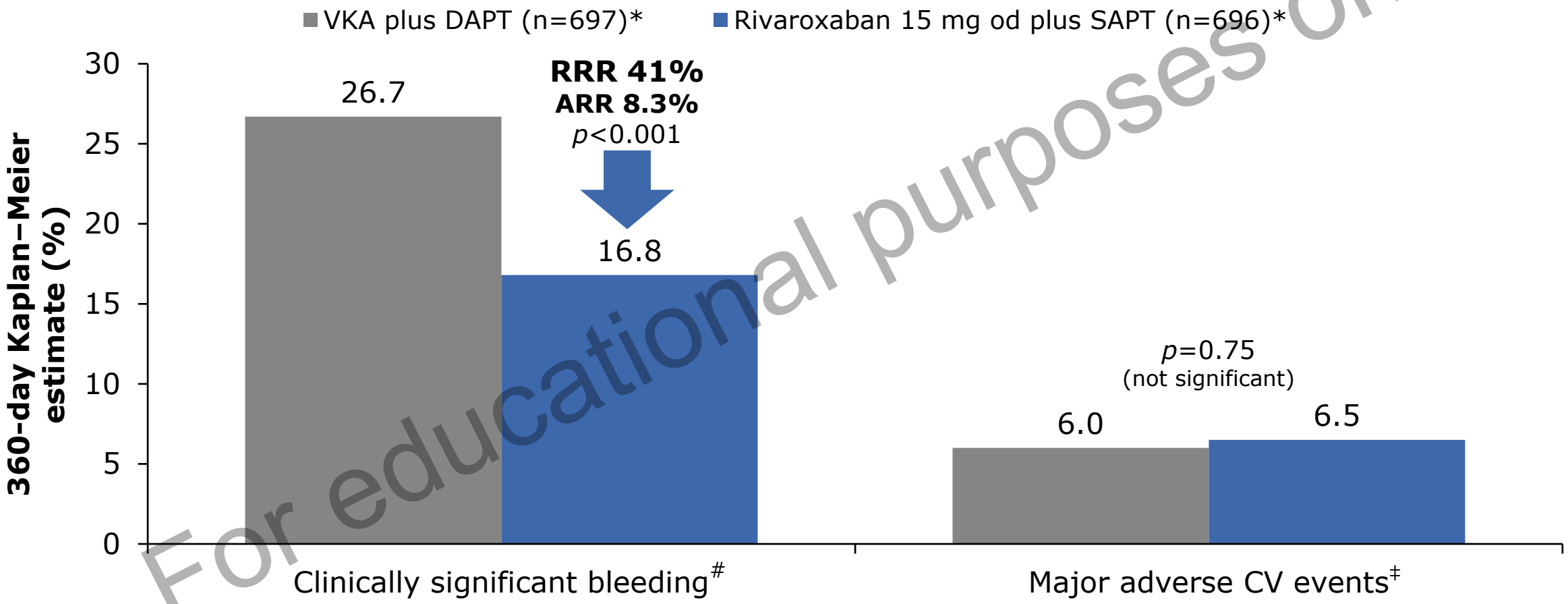


*Patients hospitalized for PCI or MI.

Lamberts M *et al*. *Circulation* 2012;126:1185–1193.

PIONEER AF-PCI

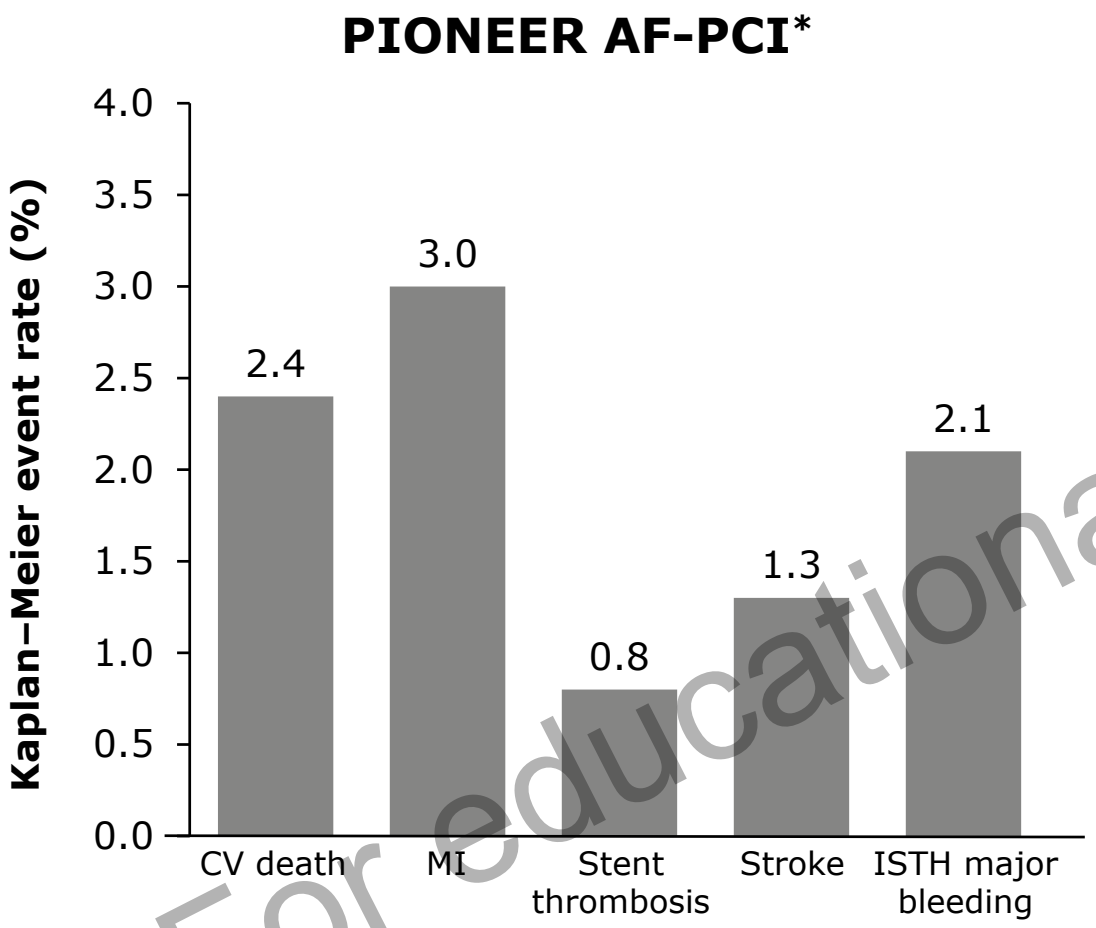
- PIONEER AF-PCI – multicentre, randomized, open-label trial assessing bleeding prevention in patients with NVAF undergoing PCI for 12 months of treatment (n=2124). Patients with a history of stroke or TIA were excluded.

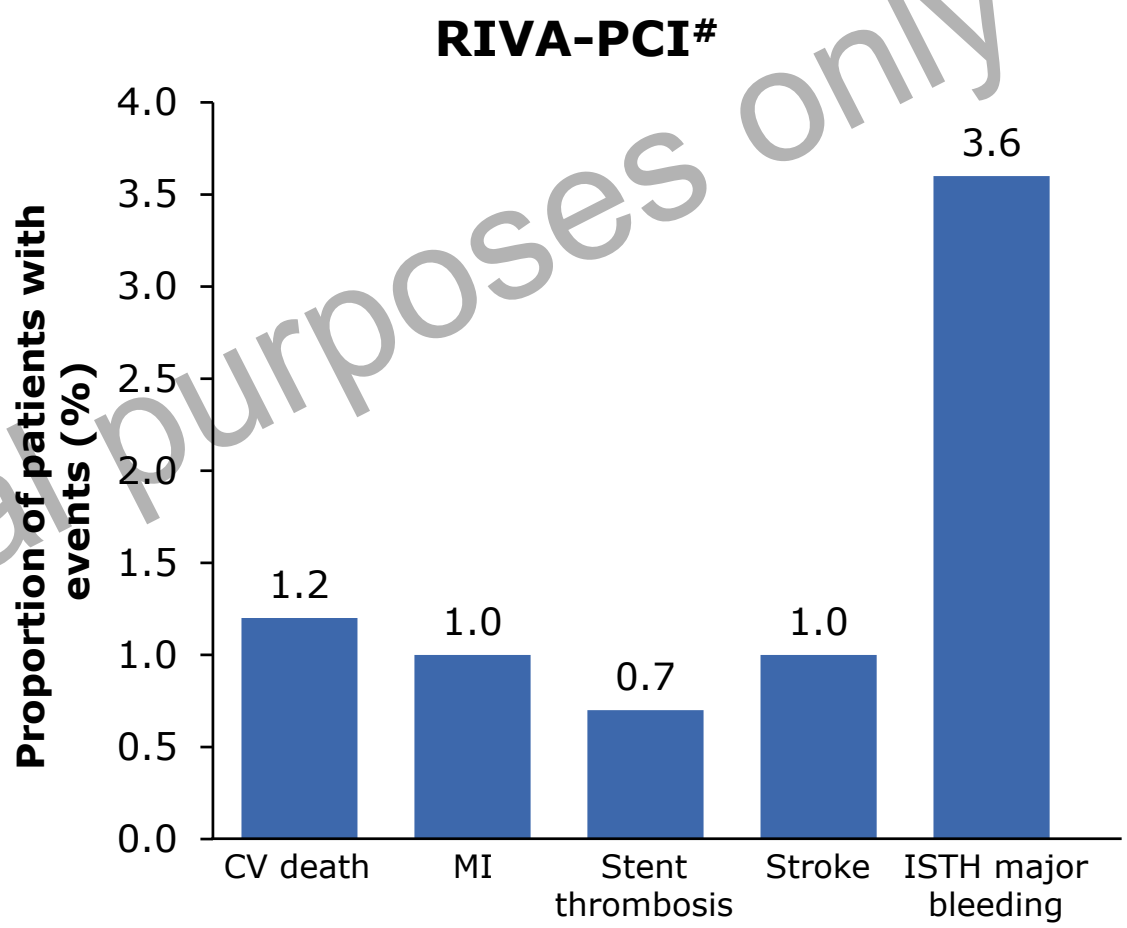


*Two participants in each group were excluded from the efficacy analyses due to violations of Good Clinical Practice Guidelines.
#Primary safety endpoint: Composite of major bleeding or minor bleeding according to TIMI criteria or bleeding requiring medical attention. ‡Composite of CV death, MI or stroke.

Gibson CM *et al*. *N Engl J Med* 2016;375:2423–2434.

Patients with NVAF undergoing PCI, like Julia, have been shown in the real world to have reduced risks of future events with rivaroxaban



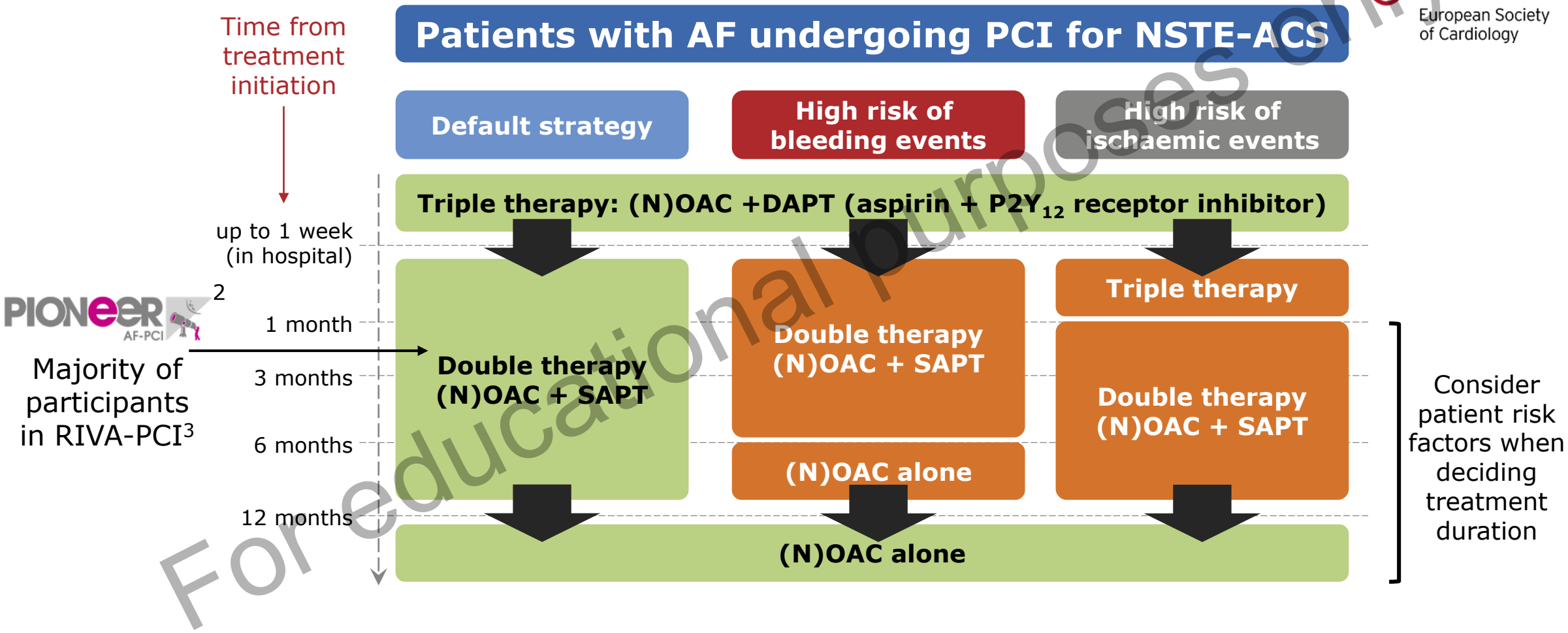


These results are not intended for direct comparison. Different study designs, populations and study/treatment durations.

*Rivaroxaban 15 mg od plus a $P2Y_{12}$ inhibitor (n=709). 12-month follow-up. #Registry data; dosing information not available. Graph shows results of 448 patients treated with rivaroxaban for >9 months during a 14-month FU. FU rate 92.9%.

1. Gibson CM *et al. N Engl J Med* 2016;375:2423–2434; 2. Zeymer U *et al. Clin Res Cardiol* 2021 doi:10.1007/s00392-021-01933-9. Abstract 37.

The 2020 ESC guidelines reflect the benefit of double therapy with a NOAC in patients with NVAF undergoing PCI[1]

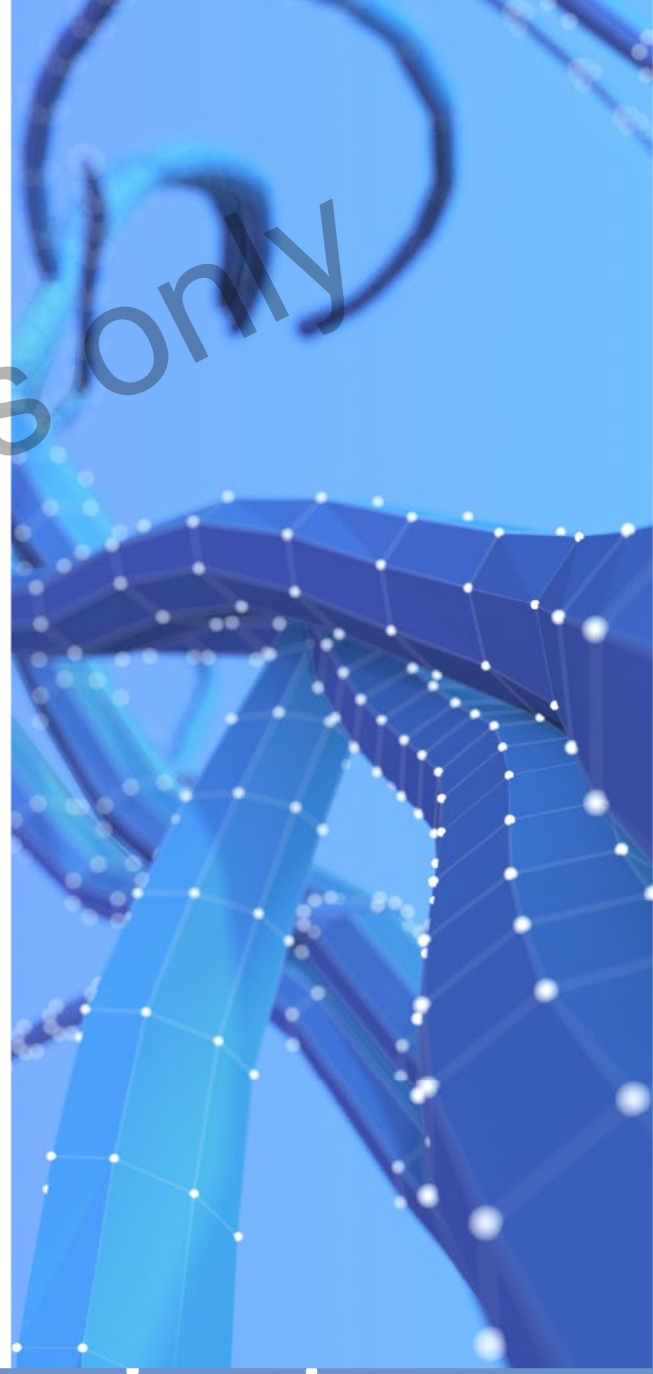


Green (class I) and orange (class IIa) colours denote the classes of recommendation.

1. Collet JP *et al. Eur Heart J* 2020;42:1289–1367; 2. Gibson CM *et al. N Engl J Med* 2016;375:2423–2434; 3. Zeymer U *et al. Herz* 2022; in press.

What if your patient with AF has CKD?

Keith Fox and Tatjana Potpara



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Disclosures

Professor Fox

- Research grants
  - Bayer/Janssen, AstraZeneca
- Consulting
  - Bayer, Sanofi/Regeneron, AstraZeneca

Professor Potpara

- Consulting
  - Pfizer and Bayer (no personal fees)
- ESC Guidelines Task Force chair (AF 2020)
- ESC Guidelines reviewer (SVT 2019, NSTEMI 2020)
- EHRA Scientific documents reviewer, writing group member
- EHRA NOAC Practical Guide (writing group member)

Protecting Julia no matter their journey

NVAF

Diabetes

WHAT IF?

Elective PCI

CKD

Older age

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Protecting Julia no matter their journey

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Julia's diagnosis of CKD puts her at an even higher risk of stroke and bleeding

Risk of stroke

~5× risk[1]

in patients with AF versus patients without AF

30–62% risk[2]

in patients with CKD* versus patients with normal kidney function[#]

1.7× risk[3]

in patients with AF and diabetes versus patients with AF alone

×2 risk of bleeding[4]

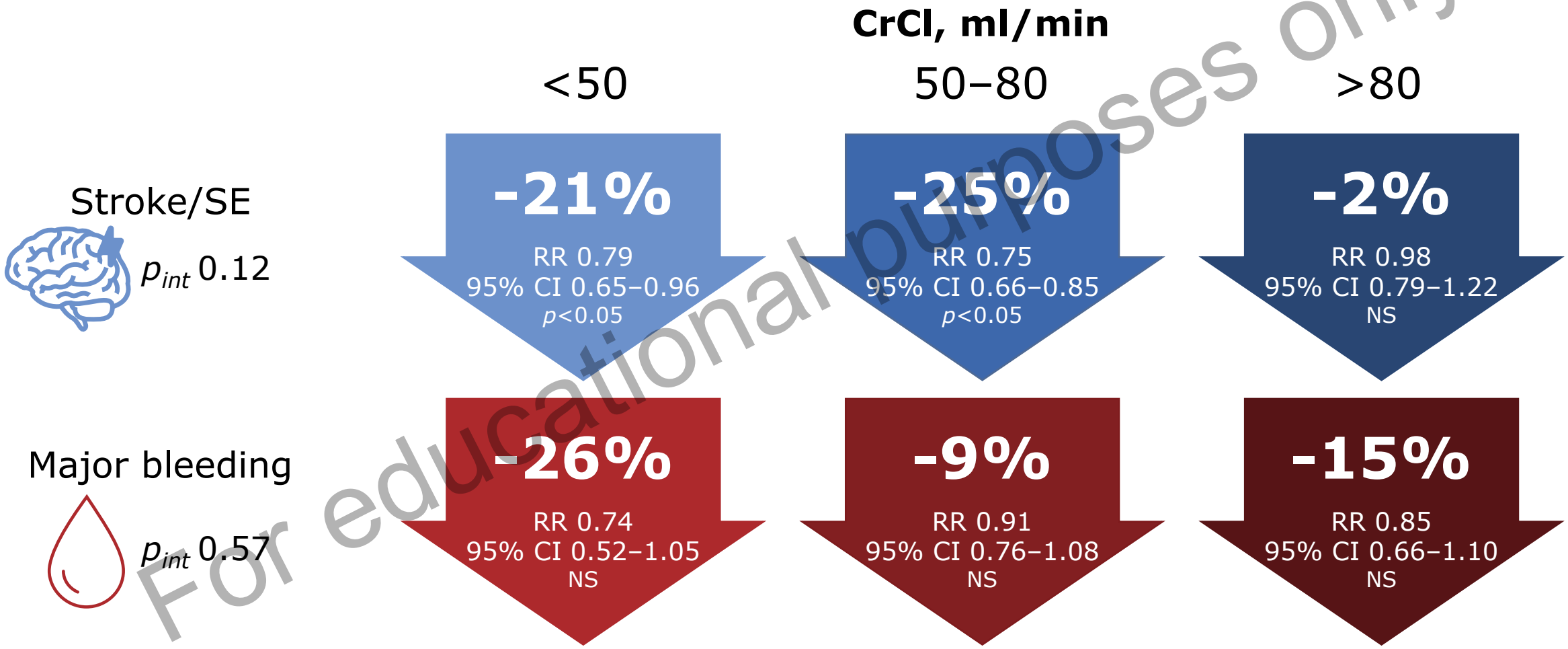
in patients with AF and eGFR 30–59 ml/min/1.73 m² versus patients with eGFR ≥90 ml/min/1.73 m²[‡]

*Patients with eGFR 45 ml/min/1.73 m² or ACR 300 mg/g. #Patients with eGFR 95 ml/min/1.73 m² or ACR 5 mg/g. ‡Over a 15-year follow-up.

1. Wolf PA *et al. Stroke* 1991;22:983–988; 2. Mahmoodi BK *et al*. *Stroke* 2014;45:1925–1931; 3. The Stroke Risk in Atrial Fibrillation Working Group. *Neurology* 2007;69:546–554; 4. Bonde AN *et al*. *Stroke* 2016;47:2707–2713.

For patients with AF and impaired kidney function, NOACs can provide relief from potentially devastating stroke and bleeding events

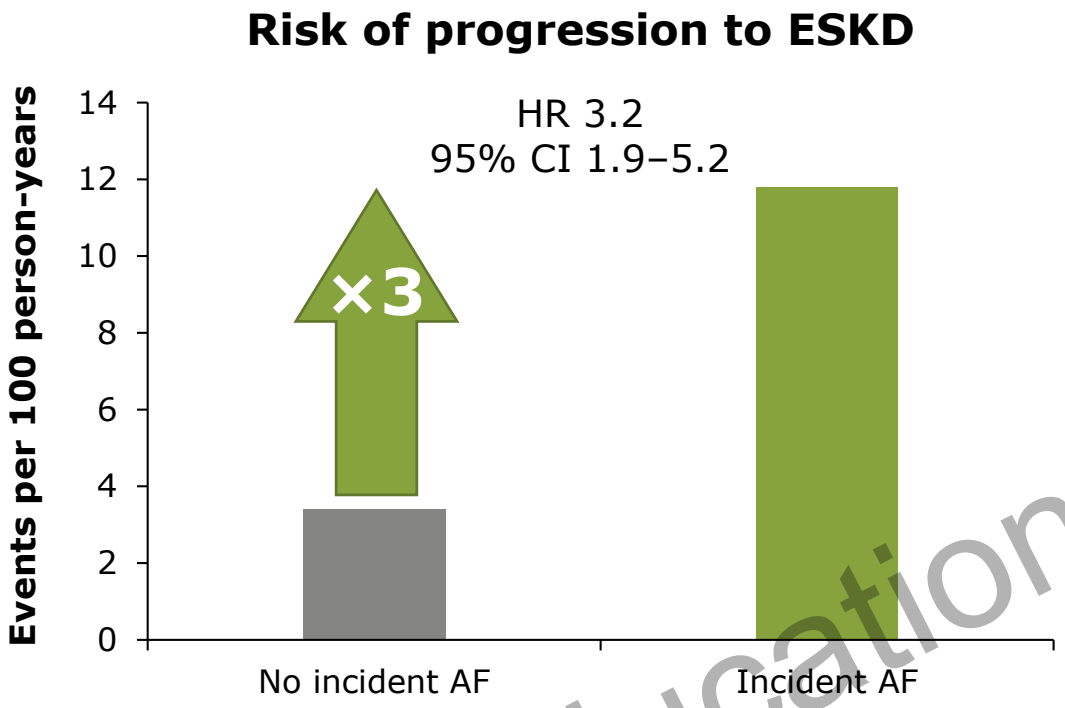
- Meta-analysis of pooled results from pivotal phase III NOAC trials in patients with AF versus warfarin

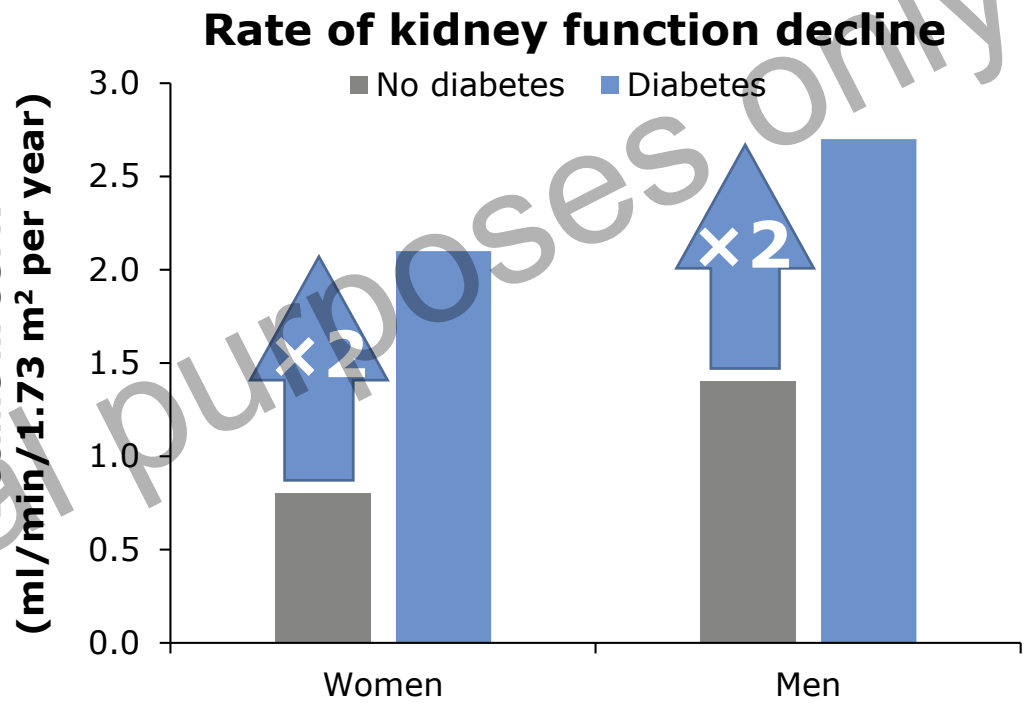


NS, not significant.

Ruff CT *et al*. *Lancet* 2014;383:955–962.

Julia also faces the additional challenge of worsening kidney function





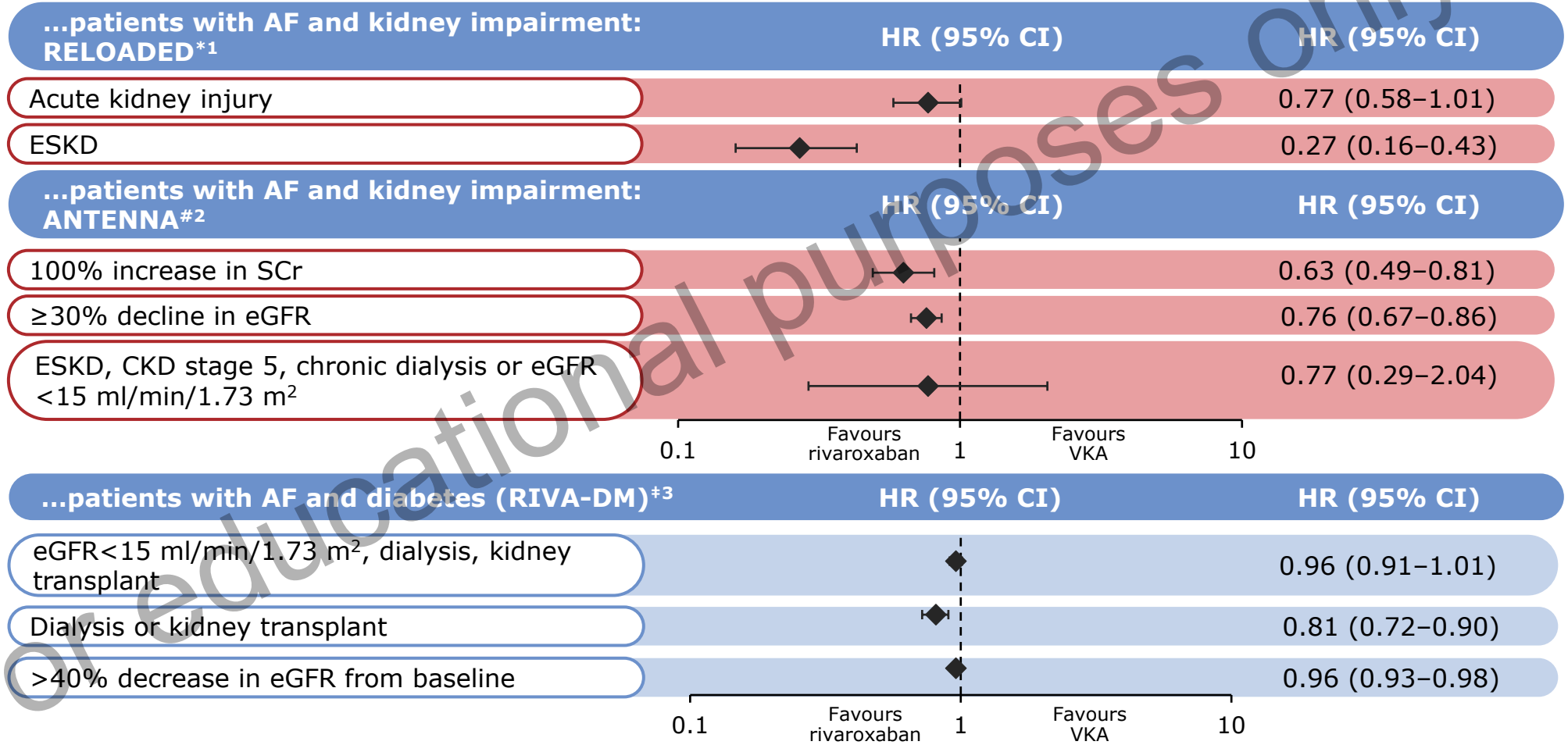
Patients with AF and CKD are **>3 times** more likely to progress to ESKD compared with those without AF[1]

Kidney function declines at **twice** the rate in people with diabetes than in people without diabetes[2]

1. Bansal N *et al*. *Clin J Am Soc Nephrol* 2016;11:1189–1196; 2. Hemmelgarn BR *et al*. *Kidney Int* 2006;69:2155–2161.

Patients can be better protected against adverse kidney events with rivaroxaban versus VKAs

Rivaroxaban has demonstrated real-world protection against adverse kidney events in…



*Rivaroxaban: n=5121, VKA: n=7289; #Rivaroxaban: n=5338, VKA: n=6314; ‡Rivaroxaban: n=24,912, VKA: n=58,270.

1. Bonnemeier H *et al*. ESOC. Milan, Italy, 22–24 May 2019. Abstract AS25-066. https://journals.sagepub.com/doi/full/10.1177/2396987319845581 [accessed 4 Feb 2022].
2. González Pérez A *et al*. *Int J Cardiol* 2022. doi:10.1016/j.ijcard.2022.01.063. 3. Costa OS *et al*. EHRA. Virtual, 23–25 April 2021. Poster. https://academic.oup.com/europace/article/23/Supplement_3/euab116.269/6283375 [accessed 4 Feb 2022].

Guidelines favour NOACs over VKAs in patients with kidney impairment

> Over time, NOACs (particularly dabigatran and rivaroxaban) may be associated with a lower risk of adverse renal outcomes than warfarin in patients with AF

– 2019 ACC/AHA/HRS Focused Update of the 2014 Guidelines on Management of AF[1]

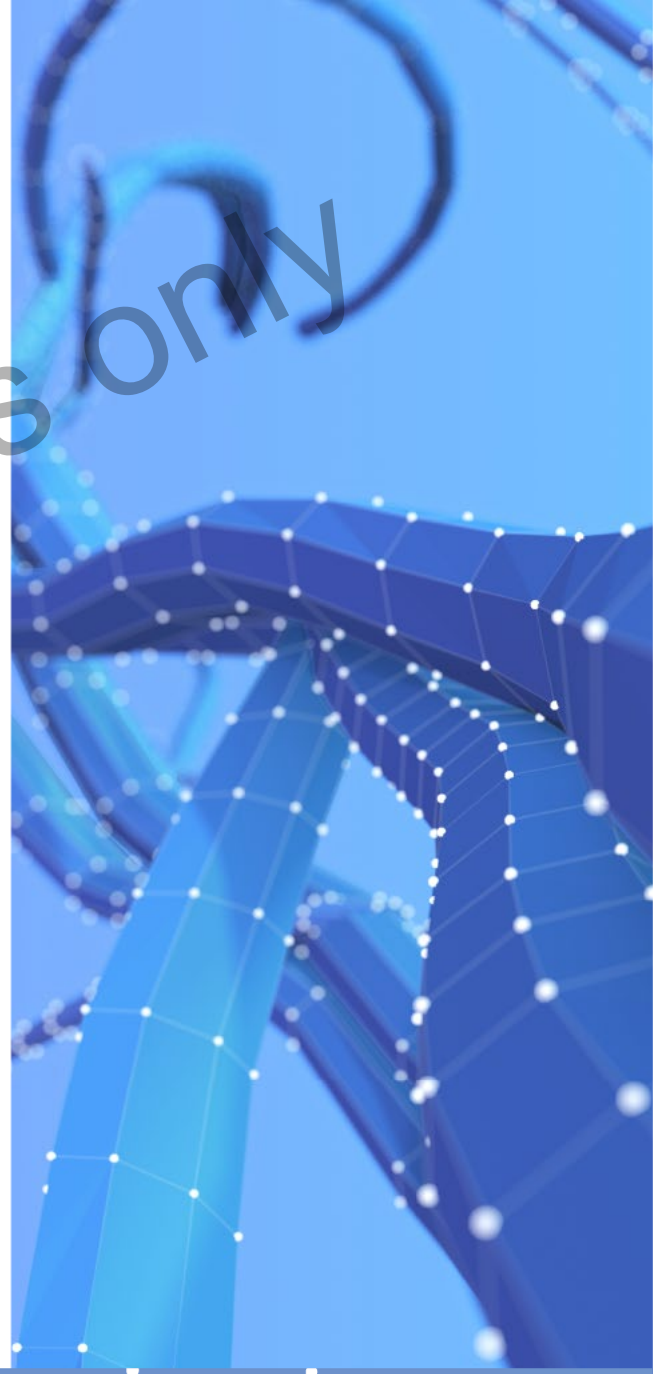
> Persistence to NOAC therapy is generally higher than to VKAs, being facilitated by a better pharmacokinetic profile of NOACs and favourable safety and efficacy, especially amongst vulnerable patients including the elderly, those with renal dysfunction or previous stroke, and so on

– 2020 ESC Guidelines on Management of AF[2]

1. January CT *et al*. *J Am Coll Cardiol* 2019;74:104–132. 2. Hindricks G *et al*. *Eur Heart J* 2021;42:373–498.

What if your patient with NVAF was older?

Tatjana Potpara and A. John Camm



Document approval IDs: Global: MA-M_RIV-ALL-1169-1 | Denmark: MA-M_RIV-DK-0169-1 | UK: RP-M_RIV-GB-0097-1 | March 2022.

Disclaimer

- This symposium is organized and fully funded by Bayer AG during the EHRA 2022 Congress. It is provided to an audience of international healthcare professionals from around the world.
- This information has been reviewed according to and is consistent with the EU Summary of Product Characteristics, available here: https://www.ema.europa.eu/documents/product-information/xarelto-epar-product-information_en.pdf
- Still, prescribing information may vary depending on local health authority approval in each country. Before prescribing any product, always refer to the product information approved in your home-country. For any question on your local prescribing information, please consult directly with Bayer's local affiliate in your country or refer to (info@bayer.com).
- Xarelto ▼ (rivaroxaban) is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any adverse events to Bayer local country affiliate.
- Adverse events should be reported. For UK HCPs, Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Bayer plc. If you want to report an adverse event or quality complaint, reports can be directed to: Tel: 0118 206 3500 or Email: pvuk@bayer.com Further information is available on the "contact" tab at www.bayer.co.uk.

Disclosures

Professor Potpara

- **Consultant:** Pfizer and Bayer (no personal fees)
- **Guidelines:** ESC Guidelines Task Force chair (AF 2020), ESC Guidelines reviewer (SVT 2019, NSTEMI 2020), EHRA NOAC Practical Guide (writing group member), EHRA Scientific documents reviewer, writing group member

Professor Camm

- **Guidelines:** Chairman: ESC guidelines on AF, 2010, and Update, 2012; ACC/AHA/ESC guidelines on VAs and SCD, 2006; NICE guidelines on ACS and NSTEMI, 2012; NICE guidelines on heart failure, 2008; Member: NICE guidelines on AF, 2006; ESC guidelines on VA and SCD, 2015; Reviewer: AHA/ACC/HRS guidelines on AF, 2014; ACC/AHA/HRS guidelines on SVT, 2015; ESC guidelines on AF, 2016
- **Steering committees:** Multiple trials involving antiarrhythmic agents, heart failure drugs, novel anticoagulants, ablation and left atrial appendage occlusion
- **Data safety management boards:** Multiple trials of devices and drugs
- **Events committees:** One trial of novel oral anticoagulants, one trial of leadless pacemakers and multiple trials of miscellaneous agents with CV adverse effects
- **Editorial role:** Editor-in-Chief, *European Heart Journal - Case Reports* and *Clinical Cardiology*; Editor, *European Textbook of Cardiology* and *ESC CardioMed*
- **Charities:** Trustee of the Drug Safety Research Unit, the Atrial Fibrillation Association and the Arrhythmia Alliance
- **Directorship:** Richmond Pharmacology Ltd and CYTE Global
- **Consultant/Advisor/Speaker:** Abbott, Acesion Pharma, Allergan, AltaThera, ARCA Biopharma, Atricure, Bayer, Biosense Webster, Biotronik, Boston Scientific, Daiichi Sankyo, InCarda Therapeutics, Johnson & Johnson, Eli Lilly and Company, Medtronic, Menarini, Milestone Pharmaceuticals, Pfizer and Sanofi

How can we protect Julia through her journey of stroke prevention?

NVAF

Diabetes

WHAT IF?

Elective PCI

CKD

Older age

This is a fictitious patient case for educational purposes only

How can we protect Julia through her journey of stroke prevention?

NVAF

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This is a fictitious patient case for educational purposes only

What matters to Julia is continued quality time with family for as long as possible

~2.6x **ARI 3.2%/year**

increased risk of ischaemic stroke per year in in patients with NVAF aged >75 years vs patients aged ≤75 years[1*]

~3x **ARI 8.4%**

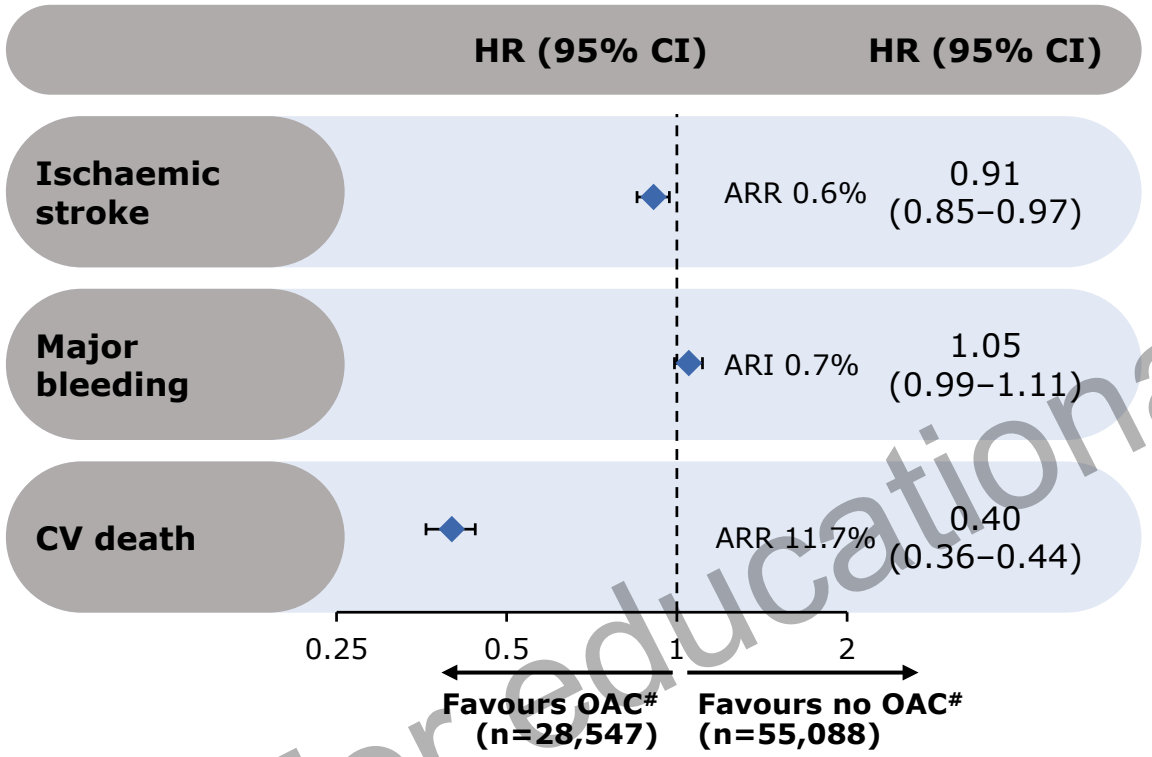
increased incidence of major haemorrhage[#] in patients aged ≥80 years vs patients aged <80 years receiving warfarin[2‡]

*Data from multivariate logistic regression analysis of 2012 participants in the Stroke Prevention in Atrial Fibrillation I–III trials followed for a mean of 2 years. #Defined as fatal, hospitalization with transfusion of ≥2 units of packed red blood cells, or involvement of a critical site (ie, intracranial, retroperitoneal, intraspinal, intraocular, pericardial, or atraumatic intra-articular haemorrhage). ‡Prospective study of patients with AF admitted to Massachusetts General Hospital between January 2001–June 2003 (n=472).

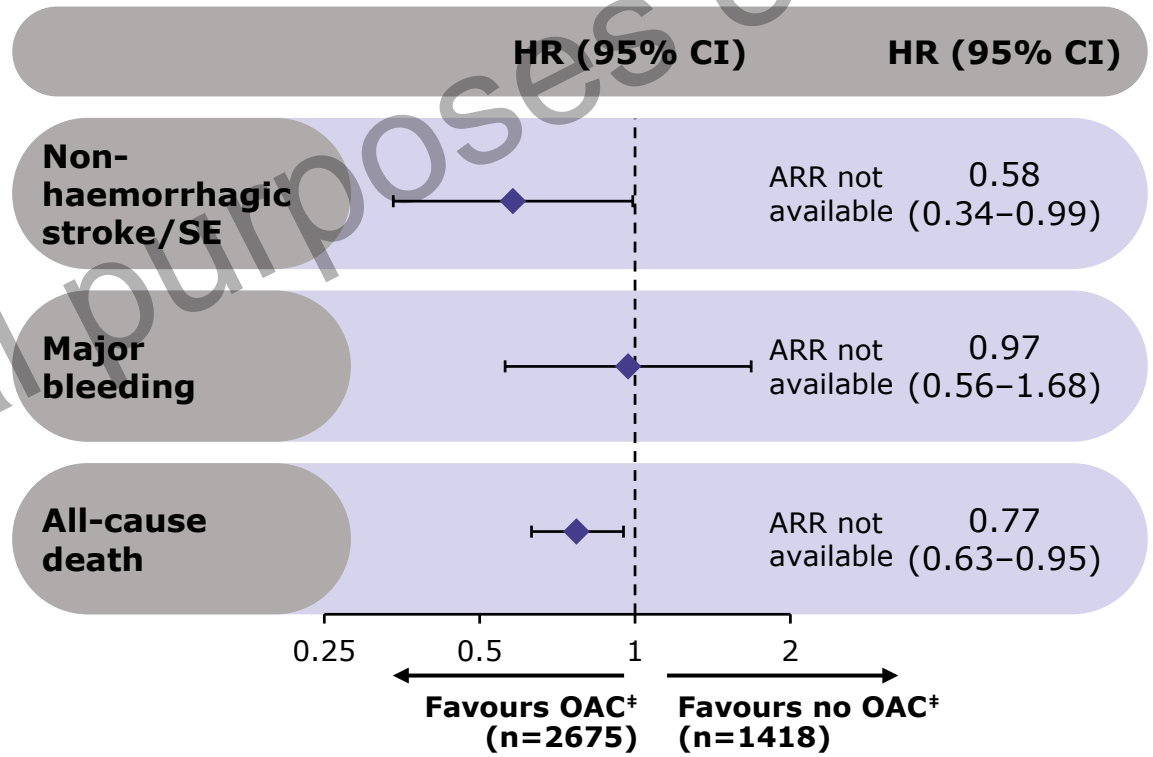
1. Hart RG *et al. Stroke* 1999;30:1223–1229; 2. Hylek EM *et al. Circulation* 2007;115:2689–2696.

How can Julia's increased risk of these devastating outcomes be addressed?

Retrospective cohort study of OAC-naïve, frail Korean patients with AF aged ≥65 years: Outcomes at 1 year*[1]



Observational global registry of patients with AF: Outcomes at 2 years in patients aged ≥85 years[2]

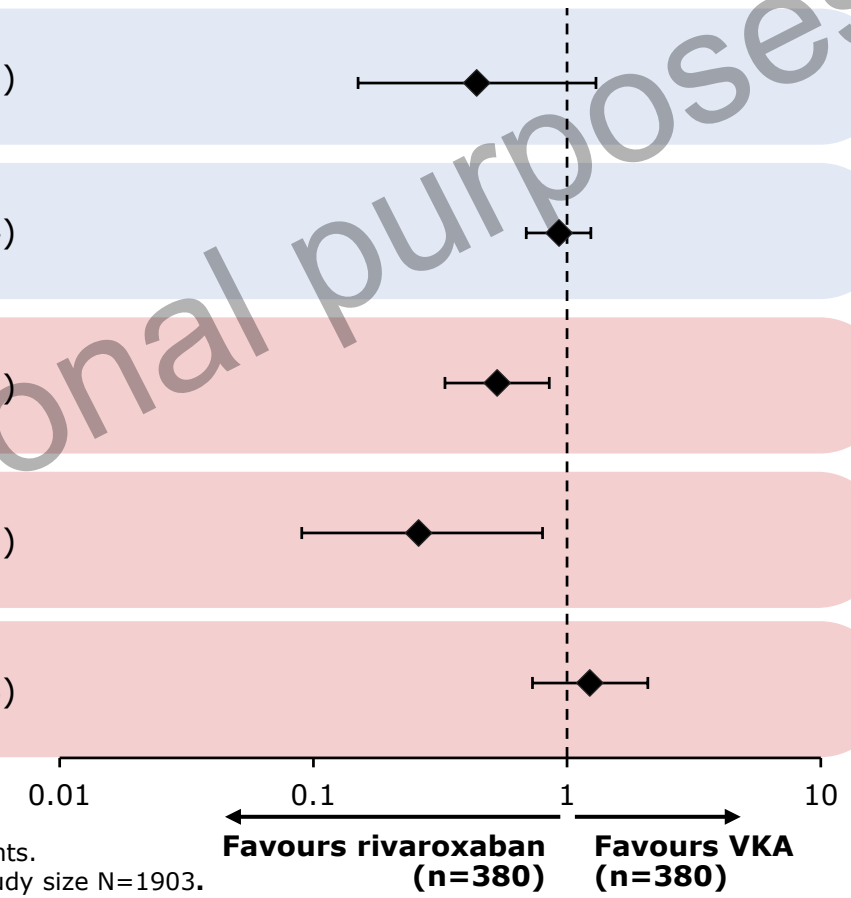


*Date of first AF diagnosis or first medical contact with a record of an AF diagnosis in 2013–2016 in the Korean National Health Insurance Service database. For patients in the OAC cohort, index date was defined as the date of first OAC prescription. #Propensity score weighted. ‡Adjusted hazard ratios obtained using an overlap-weighted Cox model. Variables included in the weighting scheme are: country and cohort enrolment, sex, age, ethnicity, type of AF, care setting speciality and location, congestive heart failure, acute coronary syndromes, vascular disease, carotid occlusive disease, prior stroke/TIA/SE, prior bleeding, VTE, hypertension, hypercholesterolemia, diabetes, cirrhosis, moderate to severe CKD, dementia, hyperthyroidism, hypothyroidism, current smoking, heavy alcohol consumption, BMI, heart rate, systolic and diastolic blood pressure at diagnosis, and baseline antiplatelet use.

1. Kim D *et al*. *Stroke* 2022. doi: 10.1161/STROKEAHA.121.036757; 2. GARFIELD-AF Investigators. [Data on File]. 2022.

SAFIR – Prospective observational cohort study of patients aged ≥80 years with NVAF

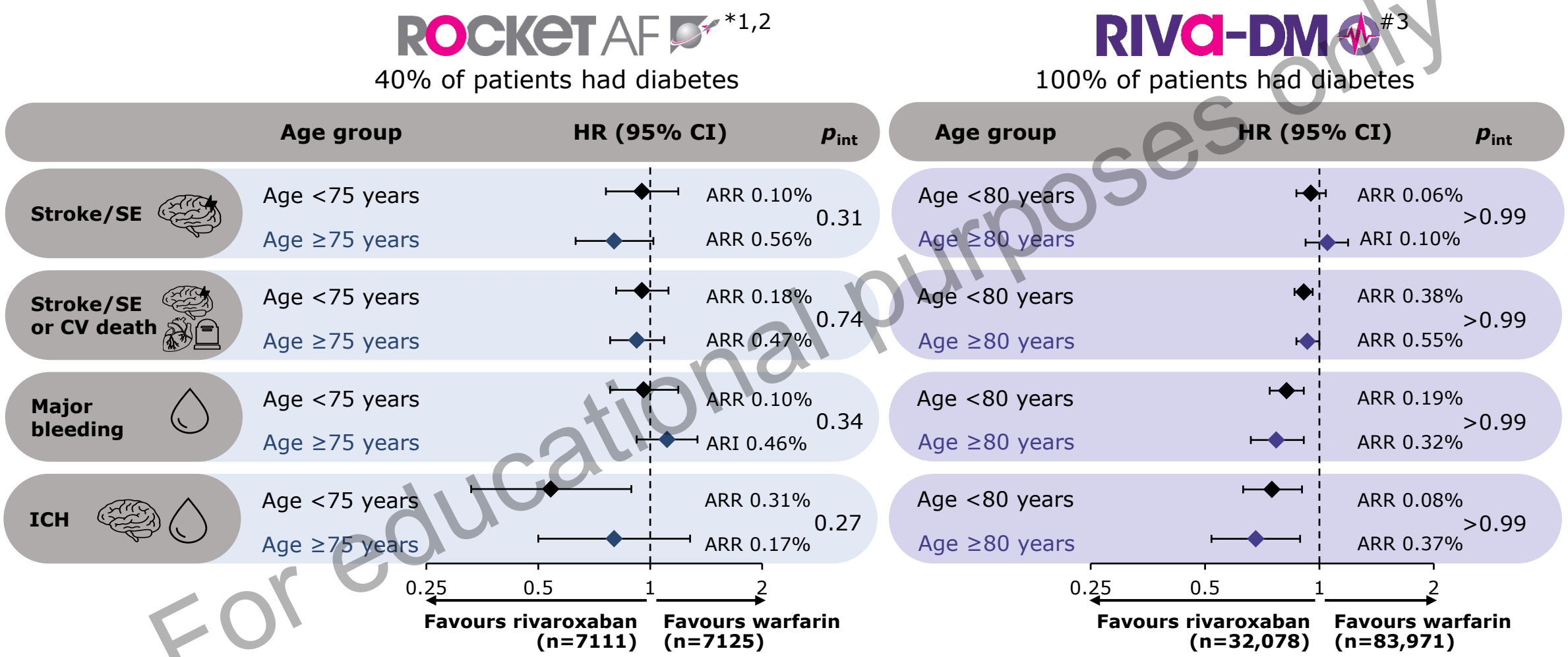
	PS-matched sample*		Crude events#
	HR (95% CI)	HR (95% CI)	ARR#
Ischaemic stroke	0.44 (0.15–1.30)		↓ 0.7%
Total mortality	0.93 (0.69–1.24)		↓ 8.6%
Major bleeding	0.53 (0.33–0.85)		↓ 4.9%
Intracerebral haemorrhage	0.26 (0.09–0.80)		↓ 2.0%
Gastrointestinal bleeding	1.23 (0.73–2.08)		↓ 0.7%



*Calculated on characteristics significantly different regarding haemorrhagic events.
#Calculated based on crude events during the follow-up period (1 year). Total study size N=1903.

Hanon O *et al*. *Heart* 2021;107:1376–1382.
Bayer AG. Xarelto® (rivaroxaban) SmPC. [Link].

Older patients with NVAF deserve a treatment option that they can rely on in their everyday life



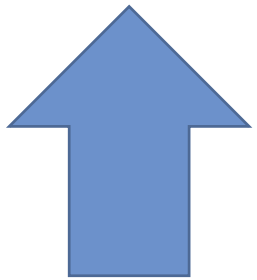
These results are not intended for direct comparison. Different study designs, populations and study/treatment durations.

*Prespecified secondary analysis of the ROCKET AF randomized clinical trial investigating the use rivaroxaban vs warfarin in patients with NVAF. #Analysis of Optum® De-identified electronic health record (EHR) data from November 2010–December 2019 of patients with NVAF and type 2 diabetes newly started on rivaroxaban or warfarin with ≥12 months of EHR data.

1. Halperin J *et al*. *Circulation* 2014;130:138–146; 2. Patel MR *et al. N Engl J Med* 2011;365:883–891; 3. Coleman CI *et al*. *Blood* 2021;138:3234. Abstract 332.

Patients with NVAF can safeguard against the burdens they face if they adhere to their anticoagulation treatment

1 in 4 NOAC doses are missed by patients with NVAF*[1]



Non-adherent patients have an increased risk of stroke over 12 months compared with adherent patients#[2]

In a Swedish study‡ of 1000-patient cohorts with NVAF and prior stroke, increasing the proportion of patients who were fully adherent to NOACs from 81% to 86% resulted in…

a cost saving of €456,150

31 quality-adjusted life years gained

…over a 20-year horizon[3]

Increasing adherence reduces both the clinical and economic burdens associated with stroke[3]

*Systematic review and meta-analysis of 48 observational NOAC adherence/persistence studies in patients with AF published between 2013–2018 (n=877,966). #Systematic review and meta-analysis of 30 observational studies reporting on extent, determinants and impacts of non-adherence to any OAC in patients with NVAF published prior to 2019 (n=593,683). ‡Cost-utility analysis based on published data from the Stockholm Healthcare database between 2011–2018.

1. Ozaki AF *et al*. *Circ Cardiovasc Qual Outcomes* 2020;13:e005969; 2. Salmasi S *et al*. *BMJ Open* 2020;10:e034778; 3. Lundqvist CB *et al*. *Value Health* 2022;25:S41.

What affects adherence?

According to Salmasi *et al*…

- Once-daily dosing
- Being an experienced OAC user
- History of hypertension, diabetes or stroke
- Concomitant use of statin, ACEi or ARB
- High risk of bleeding

- Being a naïve OAC user
- Twice-daily dosing
- **Impaired cognitive or functional ability**

Salmasi S *et al. BMJ Open* 2020;10:e034778.

How can you support your patients to adhere to their anticoagulation?

Patients' level of knowledge is significantly and positively associated with adherence rates*[1]

Total knowledge score using Knowledge of Oral Anticoagulation Tool:
OR=1.60, 95% CI 1.12–2.30, *p*=0.01

Up to 1 in 3 patients **don't have appropriate knowledge** of their underlying disease and the rationale for anticoagulation therapy#[2]

Adherence can be improved by understanding your patients' needs

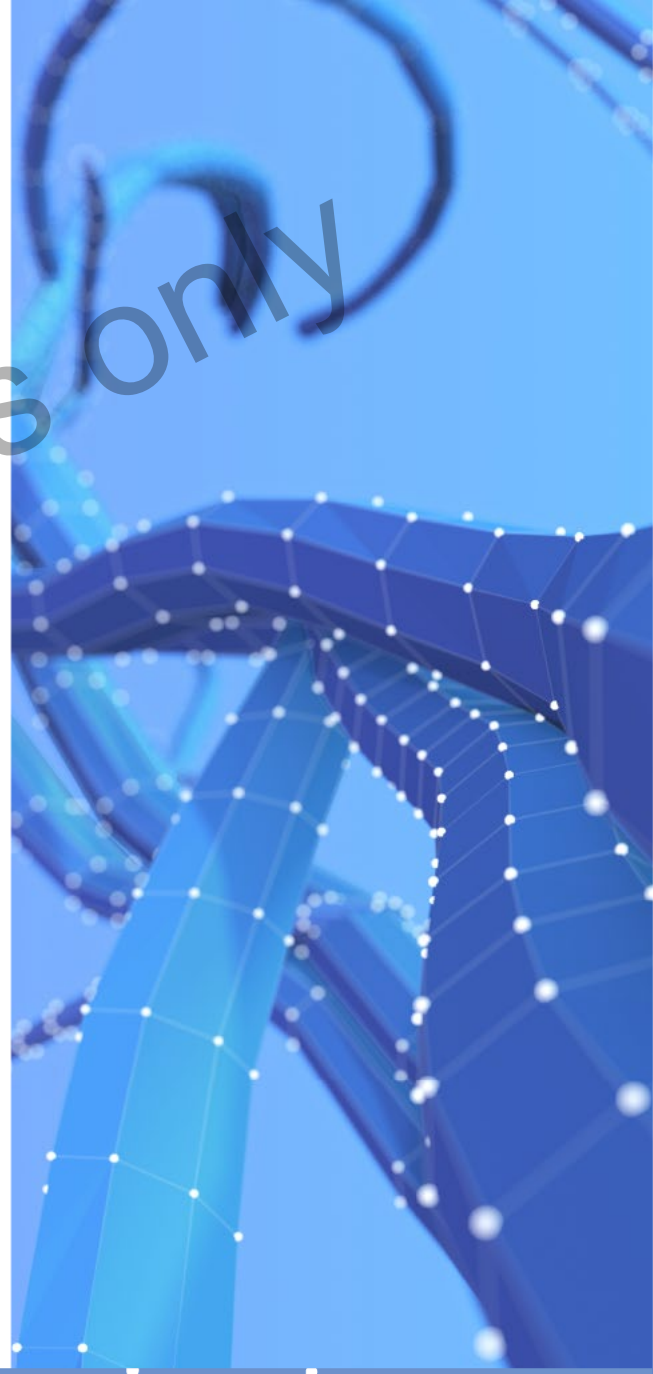
Factors such as **frequency of treatment administration should be considered** to suit your patient's preferences[3,4]

> "Ensuring patients are appropriately informed about treatment options, how to adhere to treatment potential consequences of non-adherence, in addition to managing patient's expectations of treatment goals, are crucial to promote adherence"
>
> **– 2020 ESC Guidelines on Management of AF[3]**

*Cross-sectional observational study of 108 participants with AF at a large tertiary care centre in Belgium between May 2015–January 2016. #Observational study of adults who had started taking a NOAC ≥1 year prior to enrolment in158 community pharmacies between October 2017–August 2018 (n=766).

1. Smet L *et al*. *J Adv Nurs* 2018;74:2577–2587; 2. Capiau A *et al*. *Heart* 2020;106:1740–1746; 3. Hindricks G *et al*. *Eur Heart J* 2021;42:373–498; 4. Salmasi S *et al*. *BMJ Open* 2020;10:e034778.

Live Q&A



Thank you for your attention

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