Practice Changing Updates from the 2020 CCS Atrial Fibrillation Guidelines

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CSHP Spring Therapeutics Update
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Presenter Disclosure

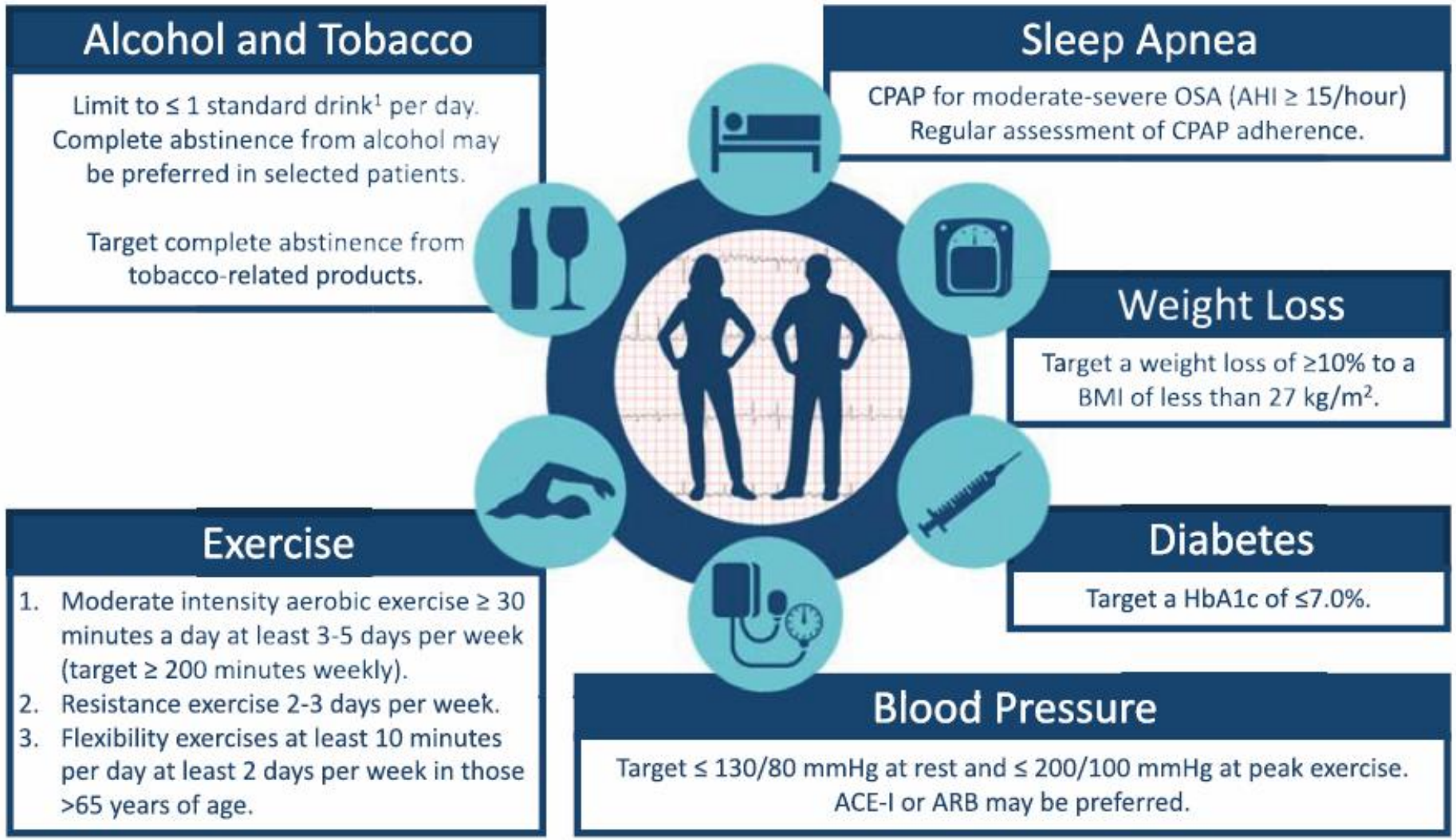
- Presenter’s Name: Shaylee Peterson
- I have no current or past relationships with commercial entities
- I have received a speaker’s fee from CSHP-BC for this learning activity

Commercial Support Disclosure

- This program has received no financial or in-kind support from any commercial or other organization

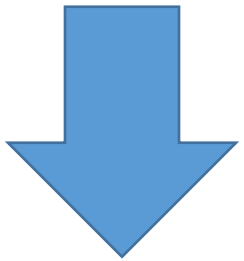
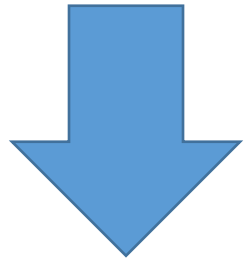
Learning Objectives

1. Identify cardiovascular risk factors that should be managed in patients with atrial fibrillation (AF)
2. Be able to distinguish “valvular AF” from “non-valvular AF”
3. Describe which patients may benefit from rhythm control therapy instead of rate control
4. List therapeutic drug alternatives that may be used for rhythm control of AF
5. Discuss the use of direct acting oral anticoagulants (DOACs) in overweight and obese individuals



[1]defined as containing 14 g of alcohol; 44 mL (1.5 fluid oz.) of 80-proof liquor, 148 mL (5 fluid oz.) of wine or 355 mL (12 fluid oz.) of beer

Canadian Journal of Cardiology 36 2020;1847:e1948

Valvular AF	Non-Valvular AF
Any MECHANICAL heart valve OR Moderate to severe mitral stenosis (Rheumatic or non-rheumatic)	AF in the absence of mechanical heart valves or moderate to severe mitral stenosis
	
Anticoagulate all patients Use warfarin only	Anticoagulate patients per CHADS-65 algorithm Choice of warfarin or DOAC (DOAC preferred)

Canadian Journal of Cardiology 36 2020;1847:e1948

Time for a case!

ID: 70 year-old woman presents to your ER department in rapid AF (new diagnosis)

Vitals: HR 140, BP 115/78
Subjective: patient reports flip-flopping sensation in chest that started 6 hours ago

PMHX:
Hypertension

MPTA:
Ramipril 5mg PO daily

Which strategy would you try first to control this patients AF?

a) Rate control
b) Rhythm control
c) I have no idea!! What do you think I am? A cardiology pharmacist?

The New England Journal of Medicine

VOLUME 347 DECEMBER 5, 2002 NUMBER 23

A COMPARISON OF RATE CONTROL AND RHYTHM CONTROL IN PATIENTS WITH ATRIAL FIBRILLATION

THE ATRIAL FIBRILLATION FOLLOW-UP INVESTIGATION OF RHYTHM MANAGEMENT (AFFIRM) INVESTIGATORS*

N Engl J Med 2002; 347:1825-1833

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 OCTOBER 1, 2020 VOL. 383 NO. 14

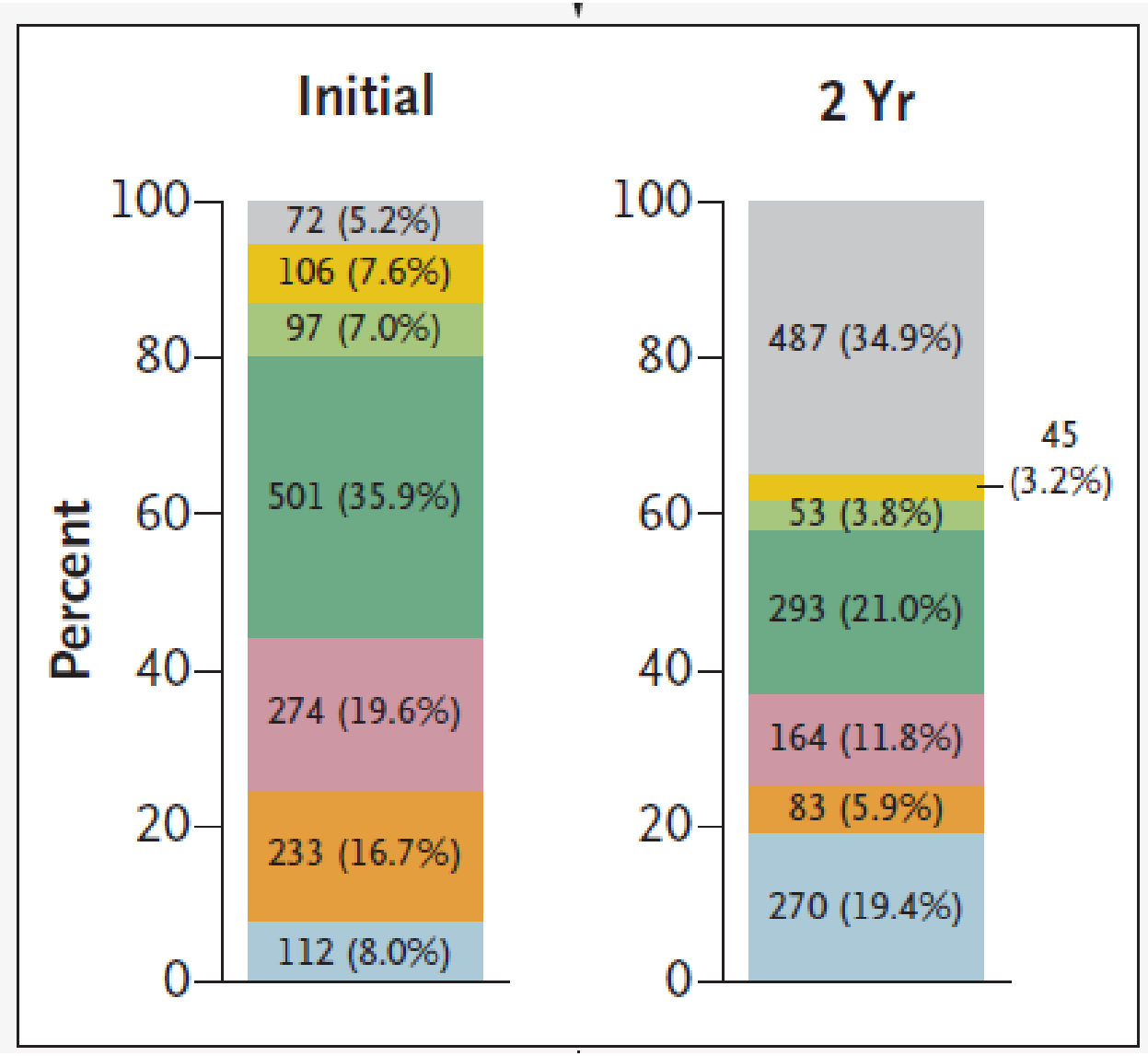
Early Rhythm-Control Therapy in Patients with Atrial Fibrillation

P. Kirchhof, A.J. Camm, A. Goette, A. Brandes, L. Eckardt, A. Elvan, T. Fetsch, I.C. van Gelder, D. Haase, L.M. Haegeli, F. Hamann, H. Heidbüchel, G. Hindricks, J. Kautzner, K.-H. Kuck, L. Mont, G.A. Ng, J. Rekosz, N. Schoen, U. Schotten, A. Suling, J. Taggeselle, S. Themistoclakis, E. Vettorazzi, P. Vardas, K. Wegscheider, S. Willems, H.J.G.M. Crijns, and G. Breithardt, for the EAST-AFNET 4 Trial Investigators*

N Engl J Med 2020;383:1305-16.

Design	Randomized, parallel-group, open-label, blinded outcome assessment
Population	Patients diagnosed with atrial fibrillation within 1 year
Intervention	Rhythm control (antiarrhythmic drugs or ablation)
Comparator	Usual care (rhythm control only for symptom management)
Outcome	1: Composite of CV death, stroke, hospitalization from HF or ACS 2: # nights in hospital/year Safety: death, stroke or serious ADRs
Result	1: HR 0.79 favouring rhythm control p=0.005 2: 5.8 days/year rhythm vs. 5.1 days/year usual care (NSS) Safety = NSS Serious ADR 4.9% rhythm vs 1.4% usual care

N Engl J Med 2020;383:1305-16.

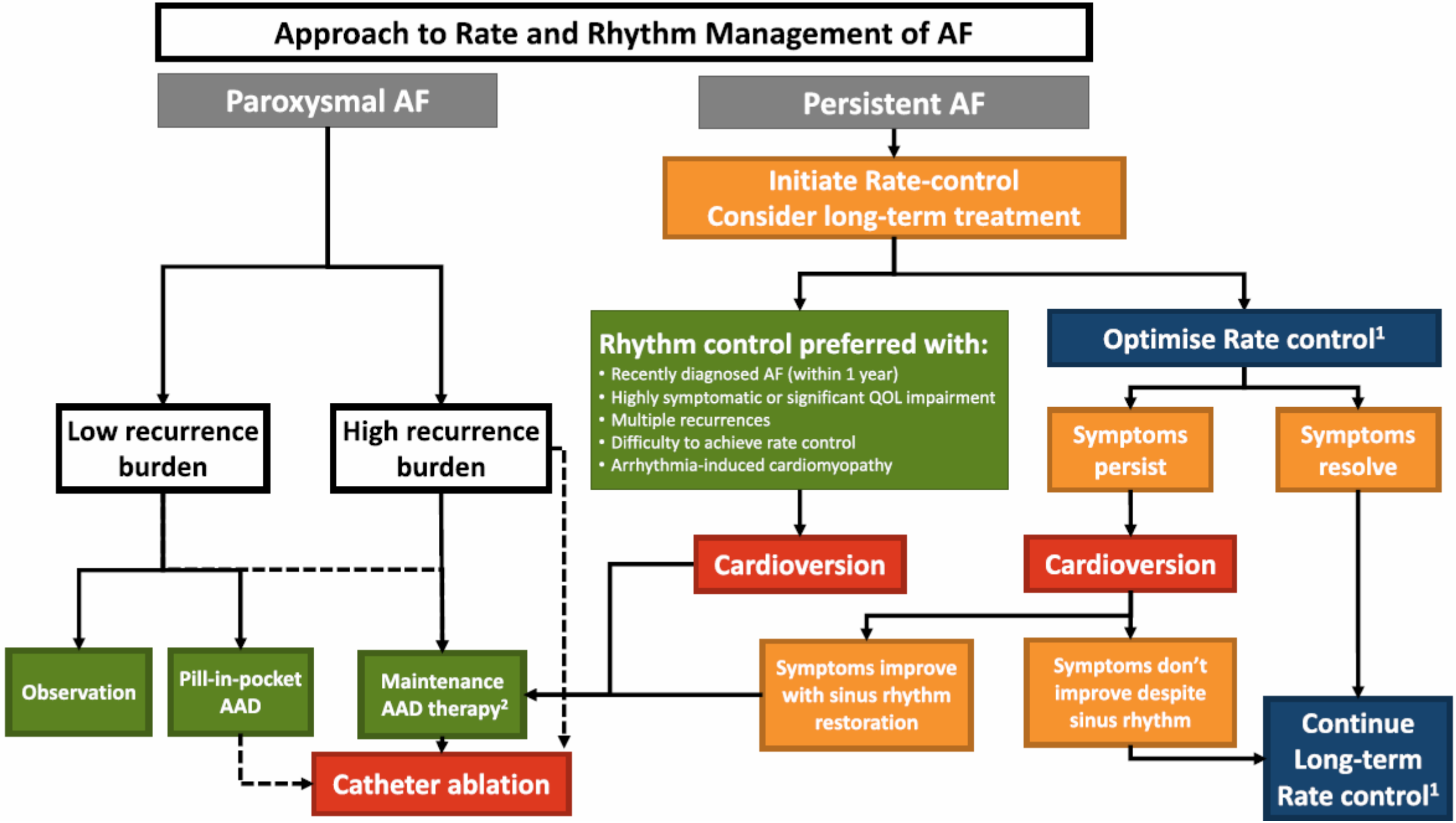


Rhythm control strategy in patients assigned to rhythm control arm

N Engl J Med 2020;383:1305-16.

Limitations

- Open label (risk of performance bias)
- 19.4% of patients received catheter ablation in rhythm group
  - This may have driven results
- Antiarrhythmic drugs all grouped into one class
  - Known to have variable safety and efficacy profiles
  - Hard to discriminate best option
- High rate of therapy discontinuation
- High use of dronedarone (not routinely accessible to our patients)



Canadian Journal of Cardiology 36 2020;1847:e1948

Therapeutic Alternatives for long term Rhythm Control

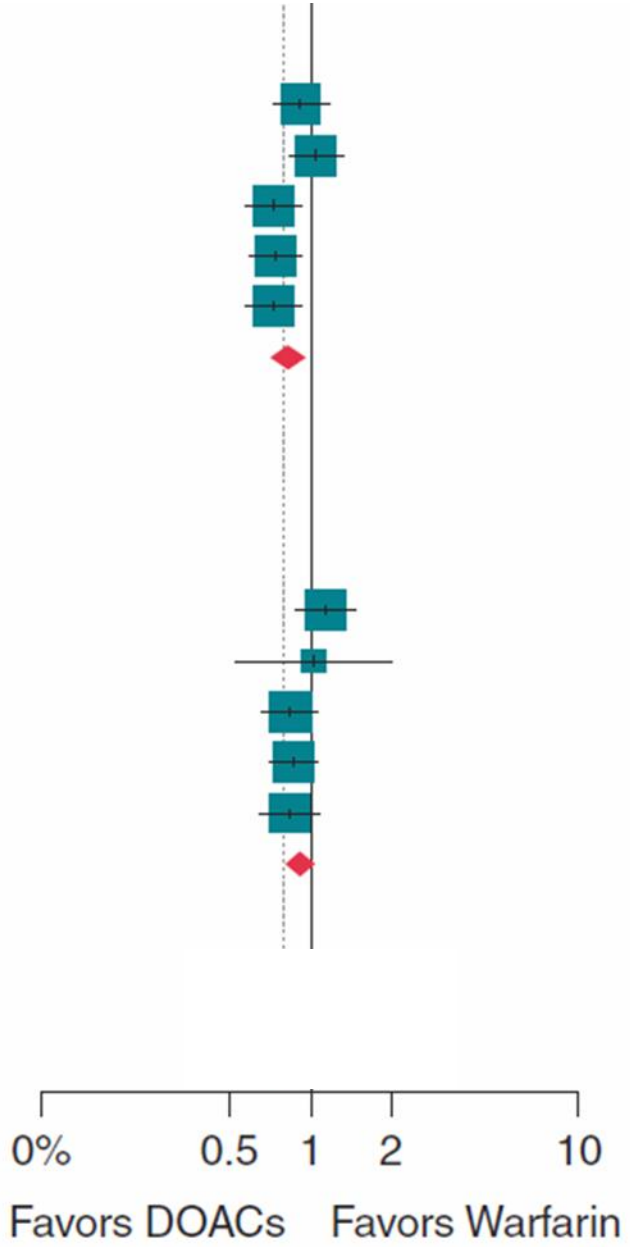
Drug	Pearls
Propafenone / Flecainide	• MUST be combined with a beta-blocker • Can be used daily or as “pill-in-pocket” for symptomatic patients
Amiodarone	• Only viable option for patients with heart failure and a reduced ejection fraction
Dronedarone	• Costly (~$150/month) –Pharmacare coverage available only for patients who develop ADR to amiodarone
Sotalol	• Avoid in patients with risk factors for torsades de pointes

Non-Drug: Cather ablation

Canadian Journal of Cardiology 36 2020;1847:e1948

Use of Direct Oral Anticoagulants (DOACS) in **overweight** and **obese** patients

BMI = Overweight (BMI= 25-30kg/m^2)				
RE-LY_150mg	–0.08	0.1181	6.4%	0.92 [0.73; 1.16]
ROCKET AF	–0.05	0.1130	6.6%	1.05 [0.84; 1.31]
ARISTOTLE	–0.31	0.1221	6.3%	0.73 [0.57; 0.93]
ENGAGE AF TIMI 48	–0.30	0.1090	6.7%	0.74 [0.60; 0.92]
RE-LY_110mg	–0.32	0.1250	6.2%	0.73 [0.57; 0.93]
Total (95% CI)			32.2%	0.83 [0.71; 0.96]
Heterogeneity: Tau^2 = 0.0150; Chi^2 = 8.37, df = 4 (P = 0.08); I^2 = 52%				
Test for overall effect: Z = –2.51 (P = 0.01)				
BMI = Obese (BMI= >30kg/m^2)				
RE-LY_150mg	0.13	0.1250	6.2%	1.14 [0.89; 1.46]
ROCKET AF	0.03	0.3430	2.0%	1.03 [0.53; 2.02]
ARISTOTLE	–0.17	0.1190	6.4%	0.84 [0.67; 1.06]
ENGAGE AF TIMI 48	–0.14	0.1046	6.9%	0.87 [0.71; 1.07]
RE-LY_110mg	–0.17	0.1320	6.0%	0.84 [0.65; 1.09]
Total (95% CI)			27.5%	0.91 [0.81; 1.03]
Heterogeneity: Tau^2 = 0.0017; Chi^2 = 4.37, df = 4 (P = 0.36); I^2 = 9%				
Test for overall effect: Z = –1.44 (P = 0.15)				



Outcome = stroke or systemic embolism

Europace 2020;22:361–367

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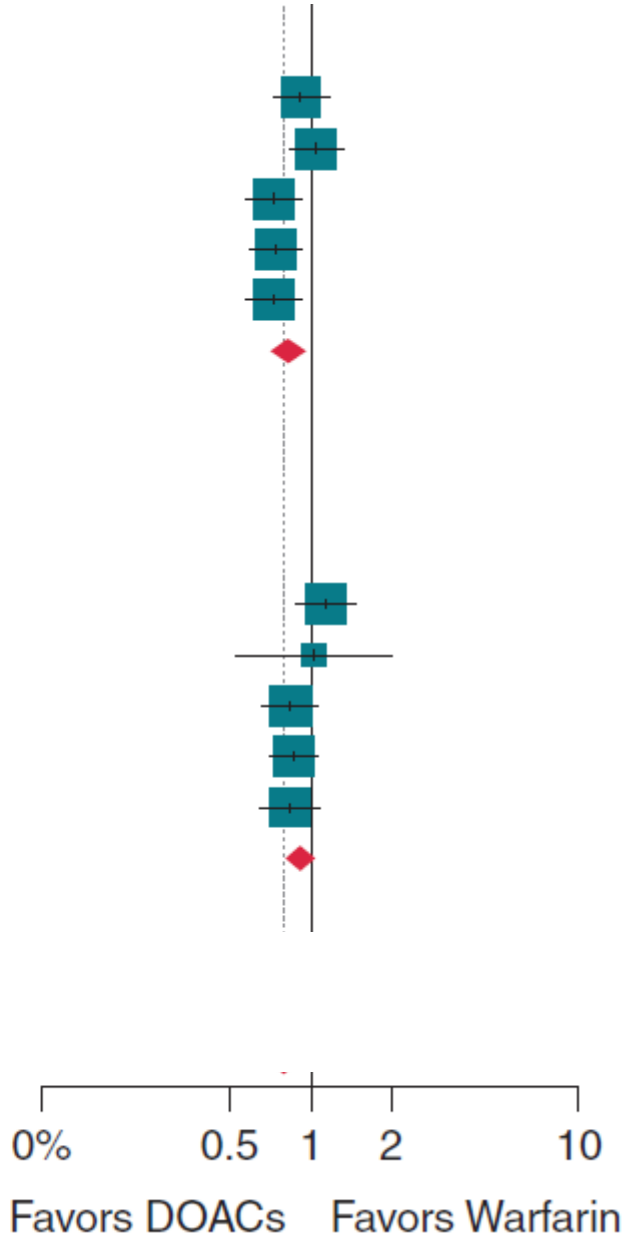

Outcome = Major bleeding

Europace 2020;22:361–367

Subgroup analysis for obesity categories

BMI 30-35 kg/m²	SSE	0.81 [0.62-1.04; I^2=24%, p=0.10]
	Major bleeding	0.85 [0.71,1.03; I^2=0%, p=0.09]
	All-cause mortality	0.86 [0.67,1.09; I^2=56%, p=0.20]
BMI 35-40 kg/m²	SSE	0.69 [0.15, 3.07, I^2=87%, p=0.62]
	Major bleeding	0.79 [0.57,1.08, I^2=0%, p=0.14]
	All-cause mortality	0.94 [0.71-1.23, I^2=0%, p=0.63]

Not enough patients with BMI > 40 kg/m^2 to conduct subgroup analysis.

Europace 2020;22:361–367

Critique:

- Reasonable reporting (PRISMA score 29/42 items)
- Important clinical outcomes selected, high quality RCTs included
- Rigorous methodology
- Appropriate statistical analysis

Bottom Line:

DOACS seem reasonable in overweight and obese patients with BMI up to 40 kg/m^2 based on best available evidence.

Take home learning points:

1. Managing cardiac risk factors is important in patients with AF
2. Valvular AF = AF + mechanical valve OR mod-severe mitral stenosis
3. Rhythm control can be a good option in AF, especially for patients with AF diagnosed in the last year
4. DOACs can be considered in overweight and obese patients with AF

Questions?

References

1. Canadian Journal of Cardiology 36 2020;1847:e1948.
2. N Engl J Med 2002; 347:1825-1833.
3. N Engl J Med 2020; 383:1305-16.
4. Europace 2020; 22:361–367.