FIBRILLAZIONE ATRIALE

Mauro Zennaro

GIANNI

67 aa

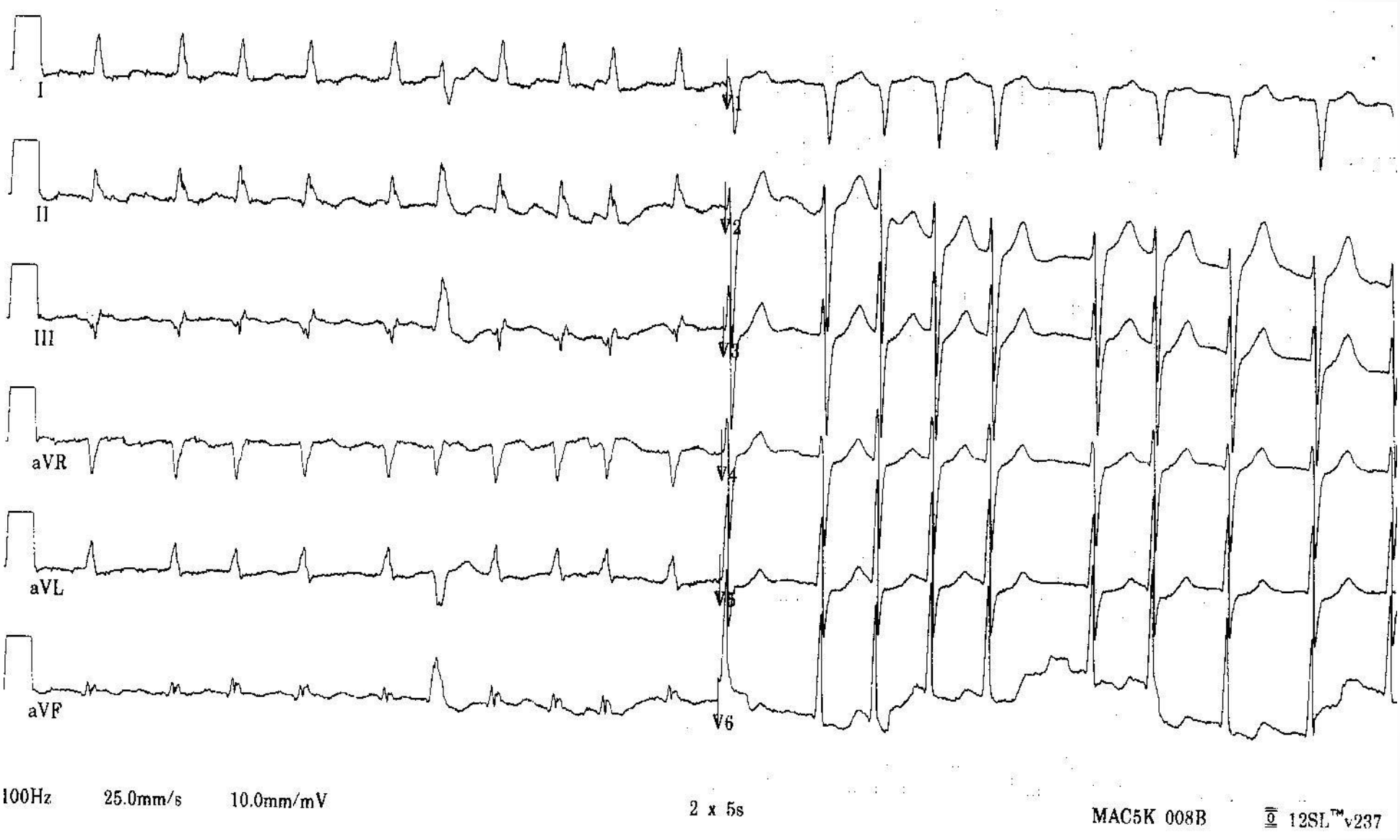
- **Ipertensione arteriosa**
- **Sovrappeso**

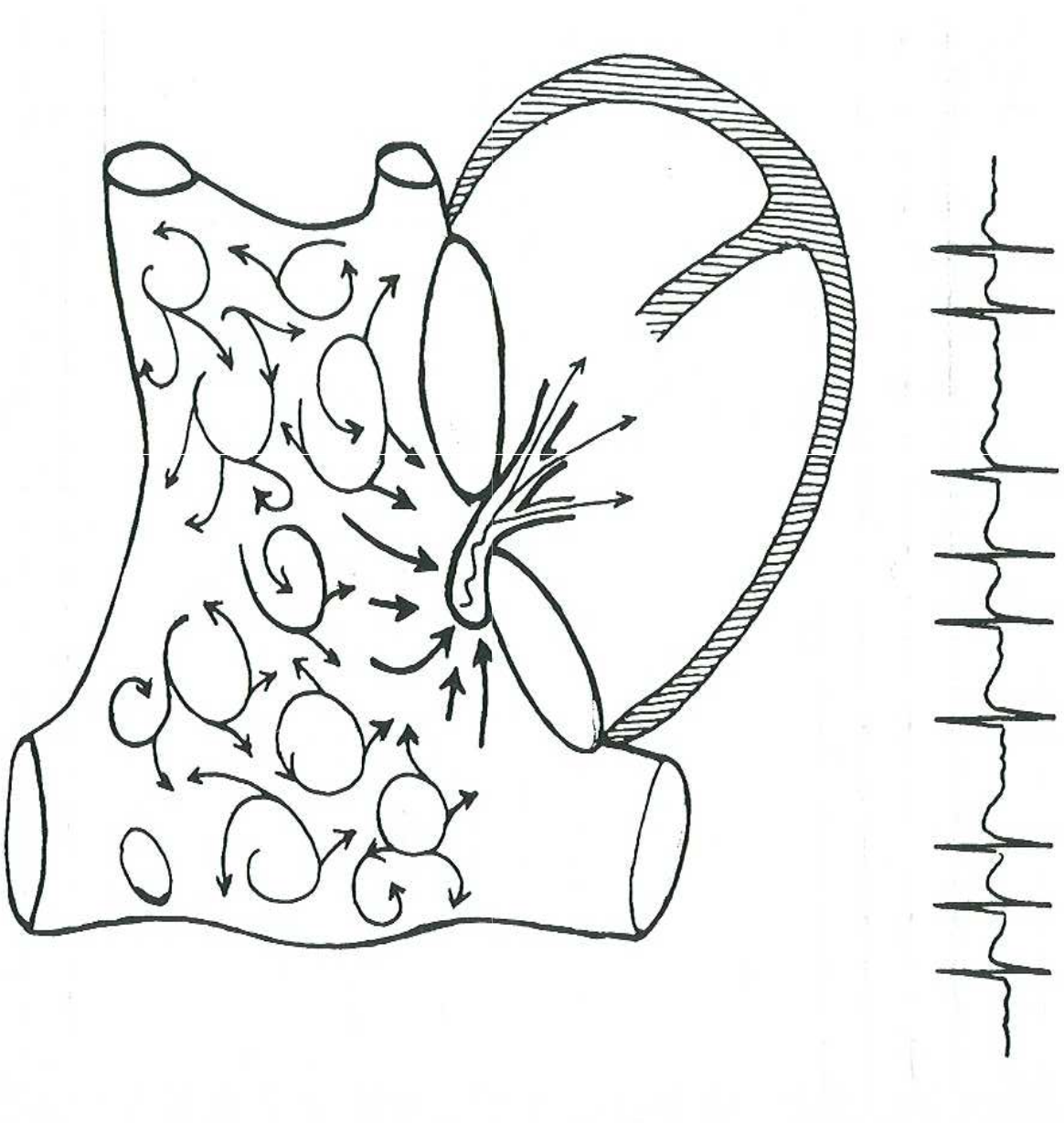
2014 intervento di chirurgia bariatrica

EPISODI RECIDIVANTI DI CARDIOPALMO

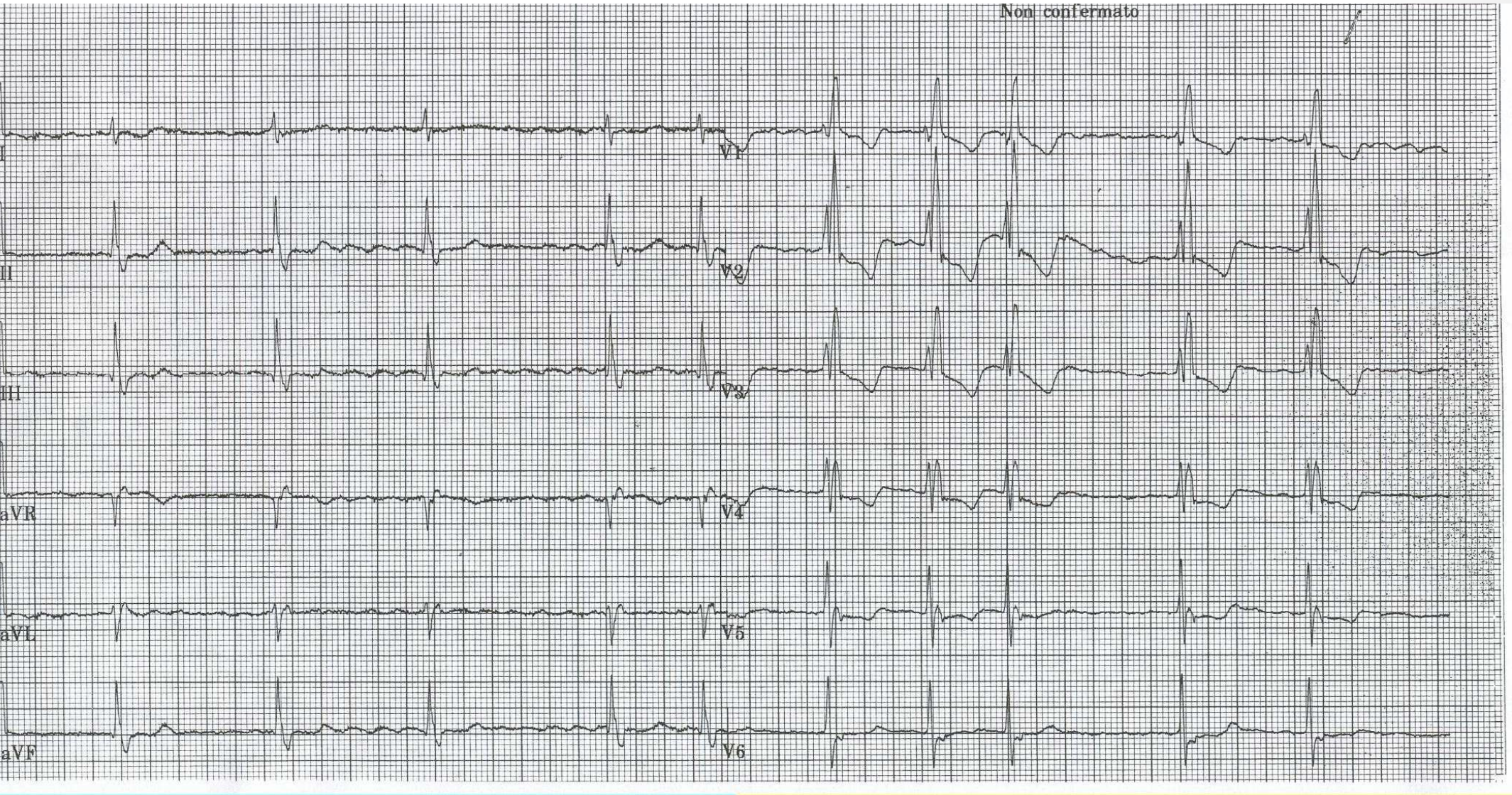
Recommendations for diagnostic workup of atrial fibrillation patients

Recommendations	Class[a]	Level[b]
ECG documentation is required to establish the diagnosis of AF.	I	B
A full cardiovascular evaluation, including an accurate history, careful clinical examination, and assessment of concomitant conditions, is recommended in all AF patients.	I	C
Transthoracic echocardiography is recommended in all AF patients to guide management.	I	C
Long-term ECG monitoring should be considered in selected patients to assess the adequacy of rate control in symptomatic patients and to relate symptoms with AF episodes.	IIa	C


I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
100Hz
25.0mm/s
10.0mm/mV
2 x 5s
MAC5K 008B
12SL™v237



.....FRANCO.....IL COGNATO DEL PAZIENTE (CHE NON PRESENTA SINTOMI)

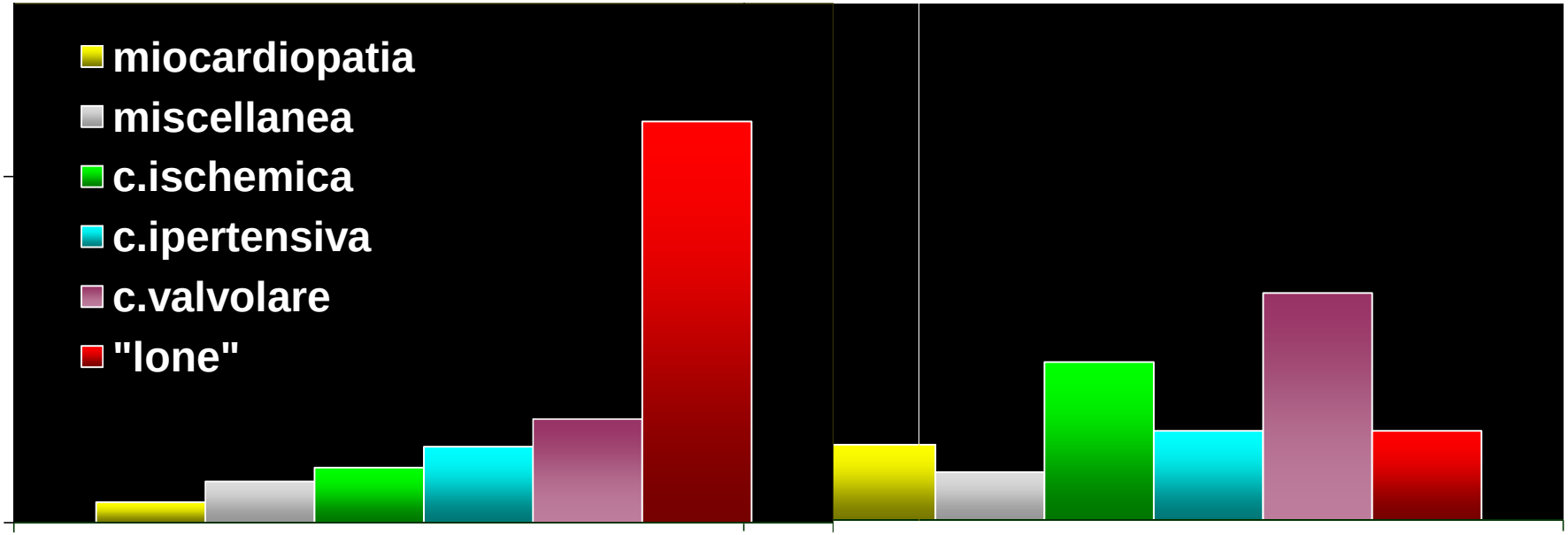


IL PAZIENTE

IL COGNATO

AF pattern	Definition
First diagnosed AF	AF that has not been diagnosed before, irrespective of the duration of the arrhythmia or the presence and severity of AF-related symptoms.
Paroxysmal AF	Self-terminating, in most cases within 48 hours. Some AF paroxysms may continue for up to 7 days.[a] AF episodes that are cardioverted within 7 days should be considered paroxysmal.[a]
Persistent AF	AF that lasts longer than 7 days, including episodes that are terminated by cardioversion, either with drugs or by direct current cardioversion, after 7 days or more.
Long-standing persistent AF	Continuous AF lasting for ≥1 year when it is decided to adopt a rhythm control strategy.
Permanent AF	AF that is accepted by the patient (and physician). Hence, rhythm control interventions are, by definition, not pursued in patients with permanent AF. Should a rhythm control strategy be adopted, the arrhythmia would be re-classified as 'long-standing persistent AF'.

ESC Guidelines 2016



FA parossistica **FA persistente**

Camm & Obel - Am J Cardiol 1996; 78: 3-11

Come si presenta

Studio ALFA

Sintomi	Popolazione totale % (n=756)	FA parossistica % (n=167)	FA cronica % (n=389)	FA di recente insorgenza % (n=200)
Palpitazioni	54,1	79,0	44,7	51,5
Dolore toracico	10,1	13,2	8,2	11,0
Dispnea	44,4	22,8	46,8	58,0
Sincope	10,4	17,4	8,0	9,5
Affaticabilità	14,3	12,6	13,1	18,0
Altro	0,9	0	1,8	0
Nessuno	11,4	5,4	16,2	7,0

perdita contributo atriale

tachicardia

(cardiomiopatia)

portata

insufficienza

mitralica

irregolarità RR

TIVI PER CARDIOLOGICA VALUTAZIONE URGENTE

GIANNI?

FRANCO?

Clinical conditions
Haemodynamic instability
Uncontrollable rate
Symptomatic bradycardia not amenable to reduction of rate control agents
Severe angina or worsening left ventricular function
Transient ischaemic attack or stroke

Cosa fare.

- **A 12-lead ECG is recommended to establish a suspected diagnosis of AF, to determine rate in AF, and to screen for conduction defects, ischaemia, and signs of structural heart disease.**
- **Initial blood tests should evaluate thyroid and kidney function, as well as serum electrolytes and full blood count.**
- **Transthoracic echocardiography should be used to identify structural disease (e.g. valvular disease) and assess LV size and function (systolic and diastolic), atrial size, and right heart function.**

GIANNI
-Ventricolo sx non dilatato.
-EF normale
-Atrio sx ai limiti alti della norma
-Non IM

FRANCO
-Ventricolo sx non dilatato.
-EF 50%
-Atrio sx moderatamente dilatato
-IM moderata

Rate or rhythm control

The acute management of patients with AF is driven by acute protection against thrombo-embolic events and acute improvement of cardiac function.

The severity of AF-related symptoms should drive the decision for acute restoration of sinus rhythm (in severely compromised patients) or acute management of the ventricular rate (in most other patients).

European Heart Journal (2010) **31**, 2369–2429
doi:10.1093/eurheartj/ehq278

Rate or Rhythm control

Rate control should be the initial approach in elderly patients with AF and minor symptoms (EHRA score 1).	I
Rate control should be continued throughout a rhythm control approach to ensure adequate control of the ventricular rate during recurrences of AF.	I
Rhythm control is recommended in patients with symptomatic (EHRA score ≥2) AF despite adequate rate control.	I
Rhythm control in patients with AF and AF-related heart failure should be considered for improvement of symptoms.	IIa
Rhythm control as an initial approach should be considered in young symptomatic patients in whom catheter ablation treatment has not been ruled out.	IIa

EUROPEAN SOCIETY OF CARDIOLOGY®

European Heart Journal (2010) **31**, 2369–2429
doi:10.1093/eurheartj/ehq278

FAVOURING RATE CONTROL	FAVOURING RHYTHM CONTROL
Persistent AF	Paroxysmal AF or newly detected AF
Less symptomatic	More symptomatic
Age ≥ 65 y	Age < 65 y
Hypertension	No hypertension
No history of HF	HF clearly exacerbated by AF
Previous failure of antiarrhythmic drug	No previous failure of antiarrhythmic drug
Patient preference	Patient preference

AF—atrial fibrillation, HF—heart failure.

Canadian CardioVascular Society – Atrial Fibrillation Guidelines 2010: rate and rhythm management

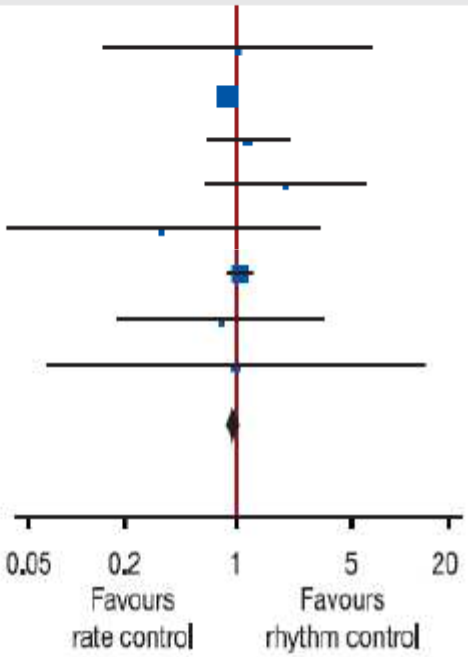
REVIEW

Rate versus rhythm control in atrial fibrillation and clinical outcomes: Updated systematic review and meta-analysis of randomized controlled trials

Study or subgroup	Rate control Events	Total	Rhythm control Events	Total	Weight	Risk ratio M-H, Random, 95% CI	Year
PIAF	2	125	2	127	0.3%	1.02 [0.15, 7.10]	2000
AFFIRM	310	2027	356	2033	52.1%	0.87 [0.76, 1.00]	2002
RACE	21	256	19	266	2.8%	1.15 [0.63, 2.09]	2002
STAF	8	100	4	100	0.7%	2.00 [0.62, 6.43]	2003
HOT CAFE	1	101	3	104	0.2%	0.34 [0.04, 3.25]	2004
AF-CHF	228	694	217	682	43.2%	1.03 [0.89, 1.20]	2008
J-RHYTHM	3	404	4	419	0.5%	0.78 [0.18, 3.45]	2009
CAFE-II	1	31	1	30	0.1%	0.97 [0.06, 14.78]	2009
Total (95% CI)	**3738**		**3761**		**100.0%**	**0.95 [0.86, 1.05]**	
Total events	574		606				

Heterogeneity : $Tau^2 = 0.00$; $Chi^2 = 3.57$, df = 7 ($P = 0.61$); $I^2 = 0\%$

Test for overall effect : $Z = 0.99$ ($P = 0.32$)



Forest plot for all-cause mortality

Caldeira D. Archives of Cardiovasc Dis 2012; 105: 226-238

THE COCHRANE COLLABORATION®

Antiarrhythmics for maintaining sinus rhythm after cardioversion of atrial fibrillation (Review)

Lafuente-Lafuente C, Valembois L, Bergmann JF, Belmin J

GIANNI

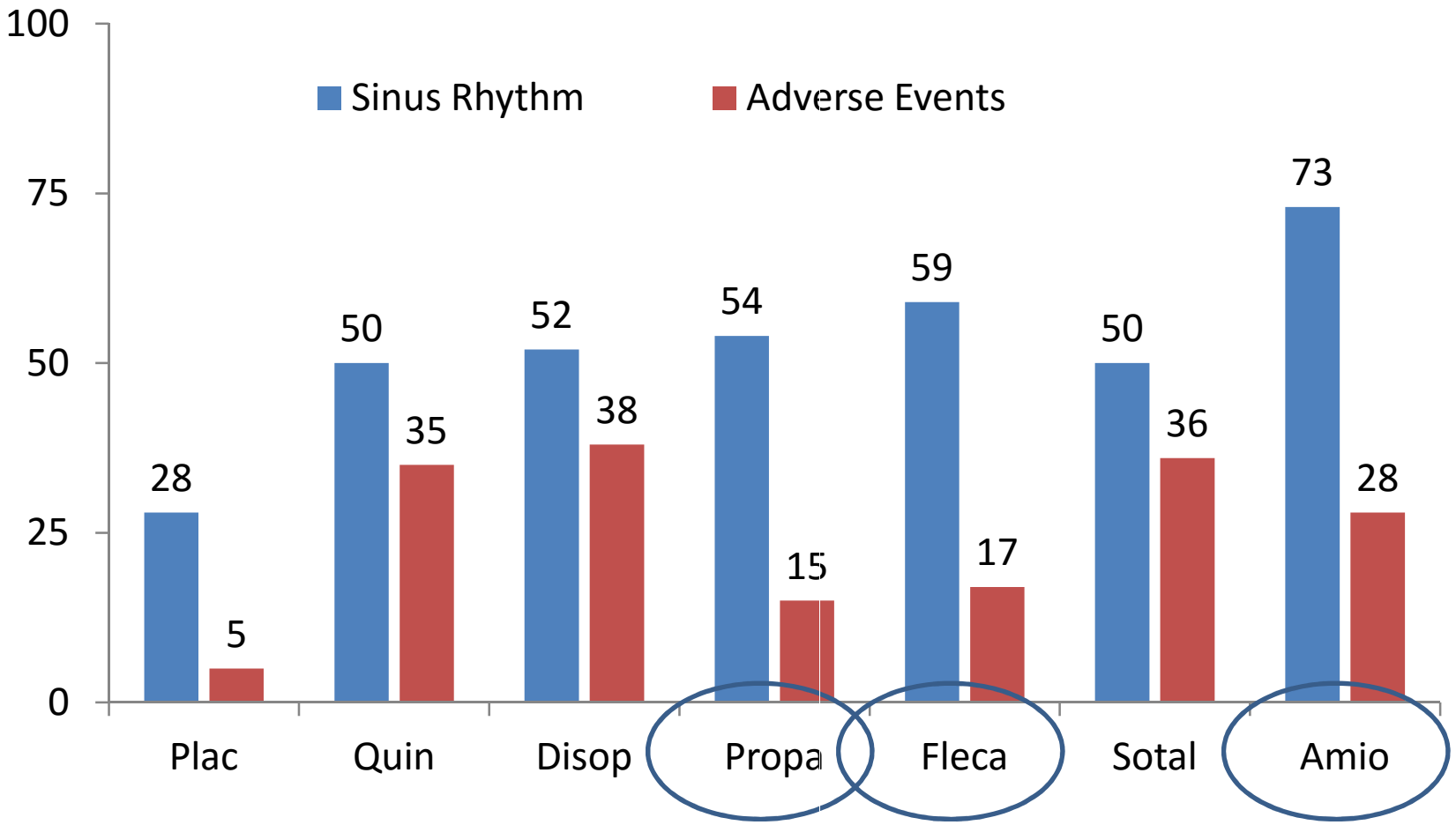
Several class IC (flecainide, propafenone) and III (amiodarone, dronedarone, sotalol) drugs significantly reduced recurrence of atrial fibrillation (OR 0.19 to 0.70, number needed to treat to beneft (NNTB) 3 to 16).

Betablockers (metoprolol) also significantly reduced atrial fibrillation recurrences (OR 0.62, 95% CI 0.44 to 0.88, NNTB 9).

Compared with controls, class IA drugs and sotalol were associated with increased all-cause mortality. Other antiarrhythmics did not seem to modify mortality.

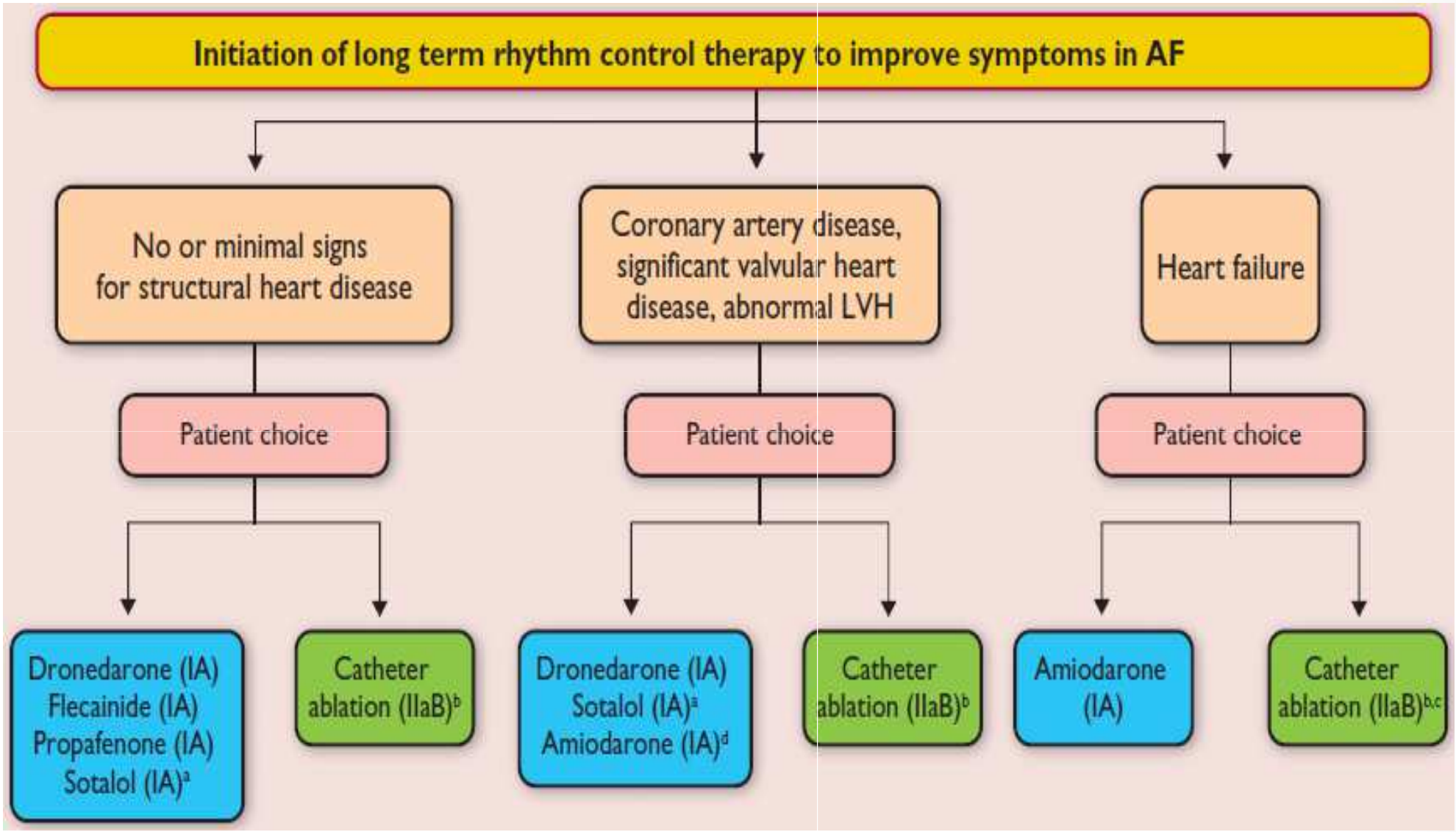
All analysed drugs increased withdrawals due to adverse affects and all but amiodarone, dronedarone and propafenone increased proarrhythmia.

Efficacia e Tollerabilità



rmaco	Metabolismo; dose	Tossicità non cardiovascolare	Tossicità cardiovascolare
pafenone	Epatico;150-300 x 3/die; rilascio prolungato 225-425 x 2/die	Sapore metallico, vertigini	Flutter atriale 1:1, TV, smascheramento ST sopra in Brugada, non in ischemia miocardica
cainide	Renale/epatico CYP2D6. 50-100 x 2 (max 300-400/24h)	Vertigini, cefalea, visione sfocata	Flutter atriale 1:1, TV, smascheramento ST sopra in Brugada, non in ischemia miocardica
talolo	Renale. 80-120 x 2 (max 240 x 2)	Broncospasmo	Bradicardia, torsioni di punta
fetilide lo USA)	Renale/epatico CYP3A4; dose variabile per funzione renale (500-125 µg x 2)	Nessuno	Torsioni di punta
niodarone	Epatico. Tempo di dimezzamento 50 giorni. Carico 10 g in 7-10 giorni, poi 400 mg per 3 settimane, poi 200 mg se FA. Dose ridotta se >QT, bradicardia. 150-300 bolo e.v., poi 1 mg/min per 6h, poi 0.5 mg/min mantenimento	Polmonari (polmonite da ipersensibilità, infiltrati cronici interstiziali), epatite, ipo/ipertiroidismo, fotosensibilità e fotodermia, nausea, atassia, tremori, alopecia	Bradicardia sinusale
tilide (e.v.)	Epatico CYP3A4. 1 mg e.v. in 10 min, ripetibile dopo 10 min	Nausea	Torsioni di punta
onedarone	Renale/epatico/gastrointestinale. 400 mg x 2	Anoressia, nausea, epatotossicità	Bradicardia

Modificato da Zimetbaum P. Circulation 2012;125:381-9.



ESC Guidelines

Canadian Journal of Cardiology 33 (2017) 965e976

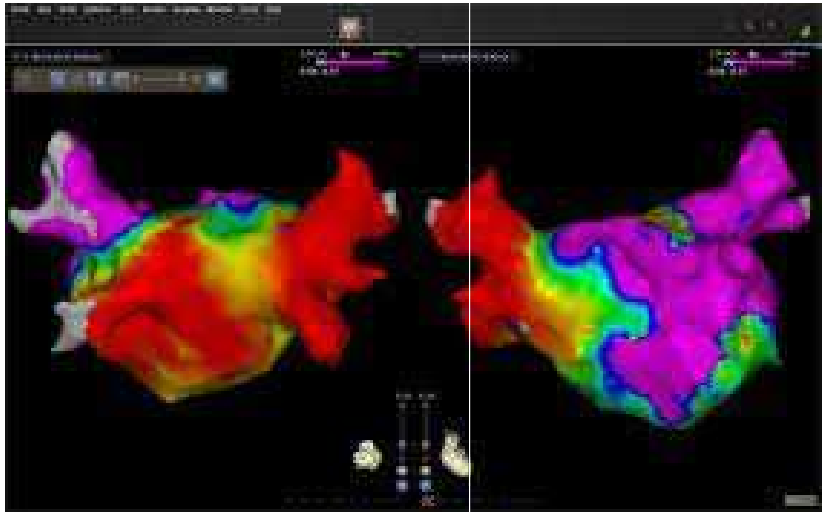
Review

Contemporary Atrial Fibrillation Management: A Comparison of the Current AHA/ACC/HRS, CCS, and ESC Guidelines

Jason G. Andrade, MD,[a,b] Laurent Macle, MD,[b] Stanley Nattel, MD,[b]

Atul Verma, MD,[c] and John Cairns, MD

The recommendations of the ACC/AHA/HRS, CCS, and ESC are in general agreement, with each providing a strong recommendation for AF ablation for paroxysmal AF patients in whom an AAD has failed (strong recommendation for CCS, **grade I for ESC, and ACCF/AHA/HRS**).



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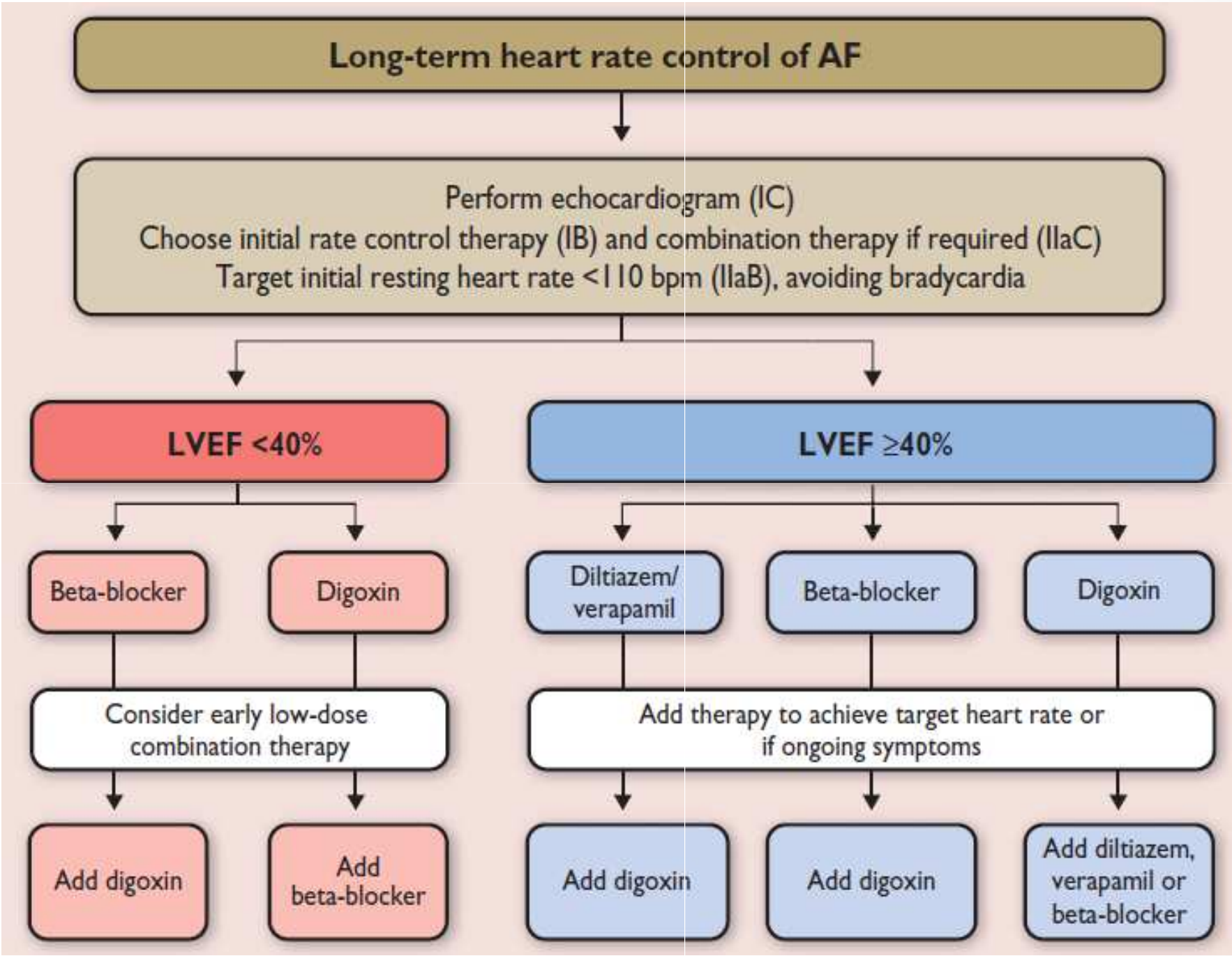
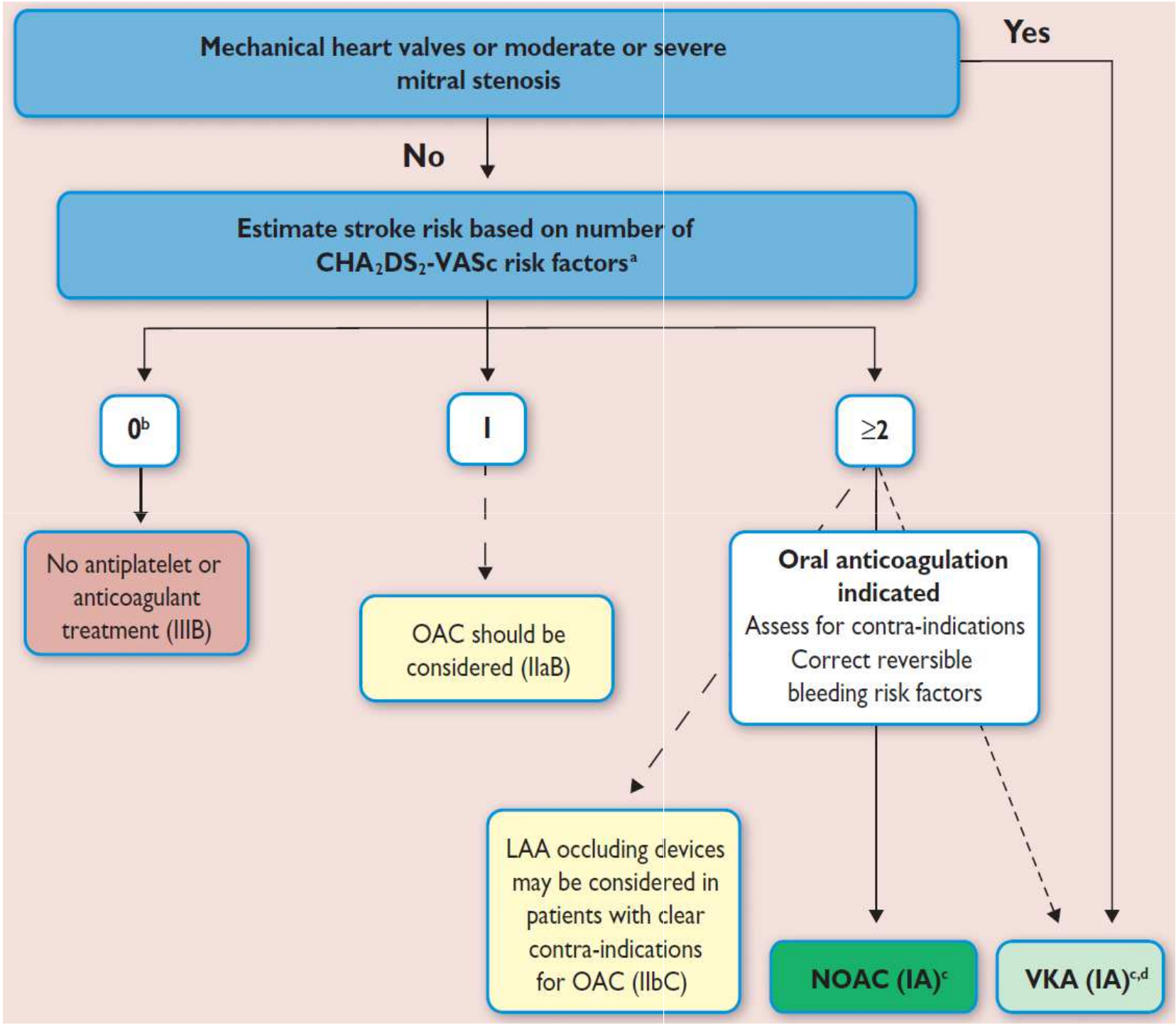

Long-term heart rate control of AF
Perform echocardiogram (IC)
Choose initial rate control therapy (IB) and combination therapy if required (IIaC)
Target initial resting heart rate <110 bpm (IIaB), avoiding bradycardia
LVEF <40%
LVEF ≥40%
Beta-blocker
Digoxin
Diltiazem/ verapamil
Beta-blocker
Digoxin
Consider early low-dose combination therapy
Add therapy to achieve target heart rate or if ongoing symptoms
Add digoxin
Add beta-blocker
Add digoxin
Add digoxin
Add diltiazem, verapamil or beta-blocker

ate control therapy

Bisoprolol	1.25–20 mg once daily or split.	Most common reported adverse symptoms are lethargy, headache, peripheral oedema, upper respiratory tract symptoms, gastrointestinal upset and dizziness. Adverse effects include bradycardia, atrioventricular block and hypotension.
Carvedilol	3.125–50 mg twice daily.	
Metoprolol	100–200 mg total daily dose (according to preparation).	
Nebivolol	2.5–10 mg once daily or split.	
Esmolol		
Calcium-channe		
Diltiazem	60 mg 3 times daily up to 360 mg total daily dose (120–360 mg once daily modified release).	Most common reported adverse symptoms are dizziness, malaise, lethargy, headache, hot flushes, gastrointestinal upset and oedema. Adverse effects include bradycardia, atrioventricular block and hypotension (prolonged hypotension possible with verapamil).
Verapamil	40–120 mg 3 times daily (120–480 mg once daily modified release).	
Cardiac glycosid		
Digoxin	0.0625–0.25 mg daily dose	Most common reported adverse symptoms are gastrointestinal upset, dizziness, blurred vision, headache and rash. In toxic states (serum levels >2 ng/mL), digoxin is proarrhythmic and can aggravate heart failure, particularly with co-existent hypokalaemia.
Digitoxin	0.05–0.3 mg daily dose.	
Specific indicatic		
Amiodarone	200 mg daily	Hypotension, bradycardia, nausea, QT prolongation, pulmonary toxicity, skin discolouration, thyroid dysfunction, corneal deposits and cutaneous reaction with extravasation.


Mechanical heart valves or moderate or severe mitral stenosis
Yes
No
Estimate stroke risk based on number of CHA_2DS_2-VASc risk factors[a]
0[b]
I
≥2
No antiplatelet or anticoagulant treatment (IIIB)
OAC should be considered (IIaB)
Oral anticoagulation indicated
Assess for contra-indications
Correct reversible bleeding risk factors
LAA occluding devices may be considered in patients with clear contra-indications for OAC (IIbC)
NOAC (IA)[c]
VKA (IA)[c,d]

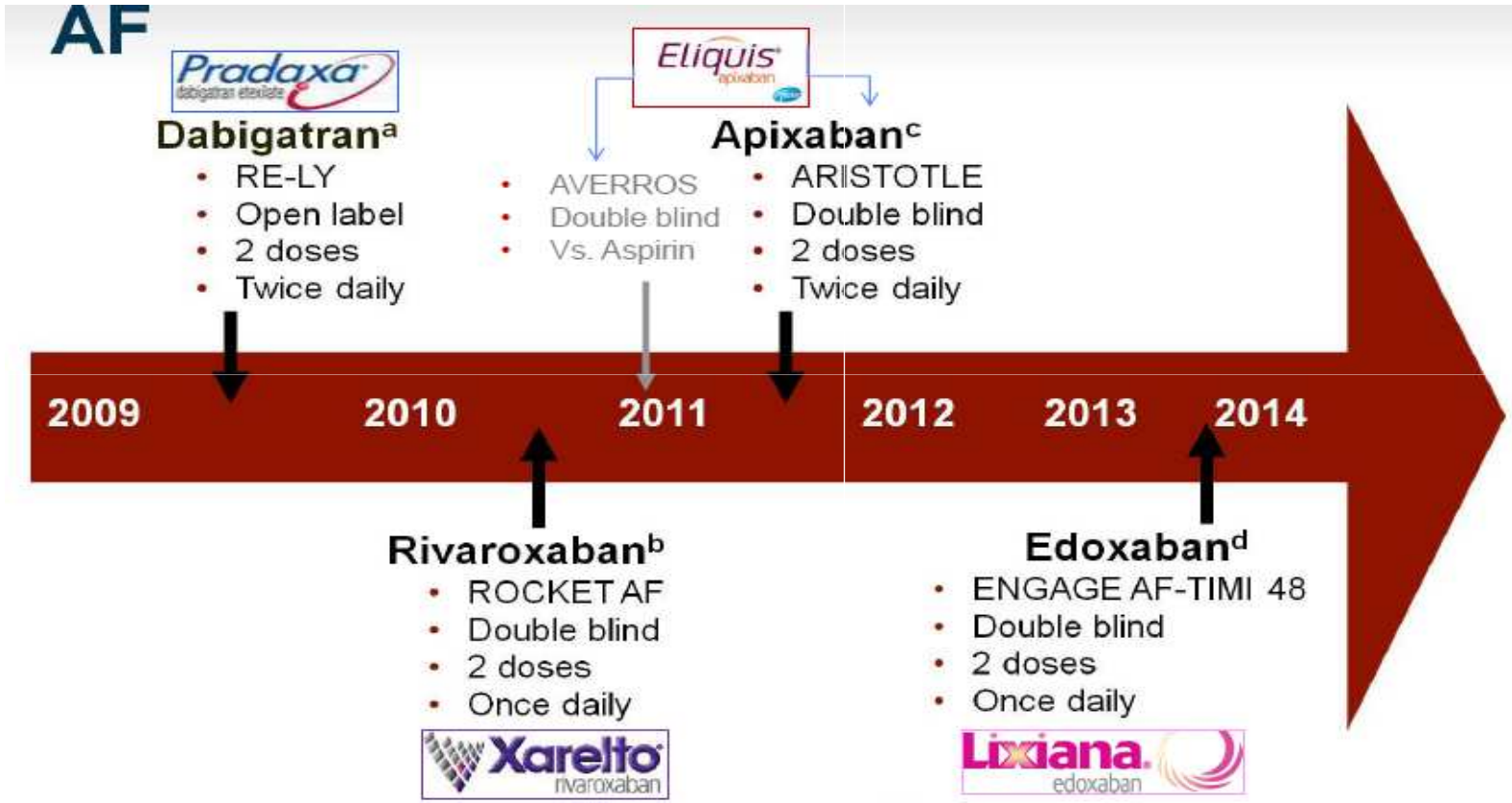
Risk factor-based approach expressed as a point based scoring system, with the acronym CHA_2DS_2-VASc
(NOTE: maximum score is 9 since age may contribute 0, 1, or 2 points)

Risk factor	Score
Congestive heart failure/LV dysfunction	1
Hypertension	1
Age ≥75	2
Diabetes mellitus	1
Stroke/TIA/thrombo-embolism	2
Vascular disease*	1
Age 65 to 74	1
Sex category (ie, female sex)	1
Maximum score	**9**

Adjusted stroke rate according to CHA_2DS_2-VASc score

CHA_2DS_2-VASc score	Patients (n = 7329)	Adjusted stroke rate (percent/year)•
0	1	0 percent
1	422	1.3 percent
2	1230	2.2 percent
3	1730	3.2 percent
4	1718	4.0 percent
5	1159	6.7 percent
6	679	9.8 percent
7	294	9.6 percent
8	82	6.7 percent
9	14	15.2 percent

A TERAPIA ANTICOAGULANTE
a scelta difficile

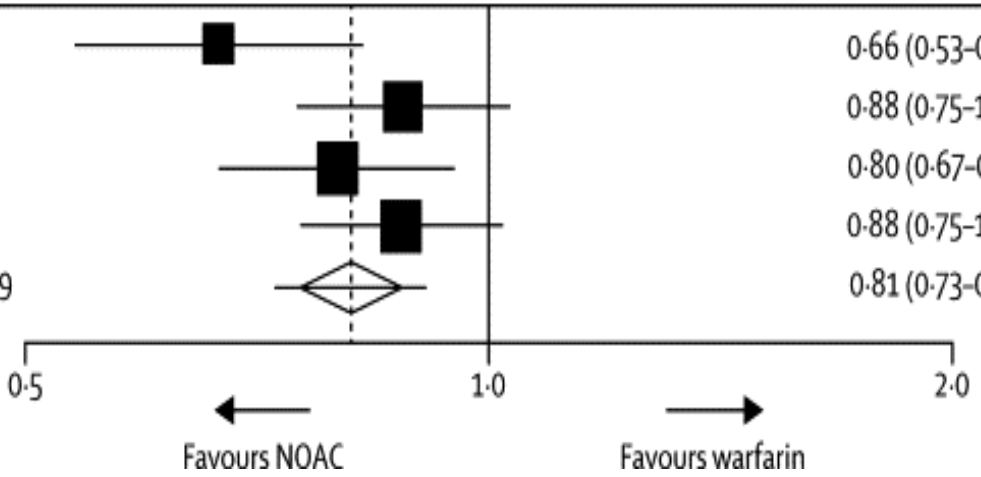


mparison of the efficacy and safety of new oral anticoagulants th warfarin in patients with atrial fibrillation: a meta-analysis of ndomised trials

42 411 participants received a new oral anticoagulant and
29 272 participants received warfarin

comparative efficacy of high-dose of NOACS and warfarin. Allocation to a new oral anticoagulant significantly reduced the composite of stroke or systemic embolic events by 19% compared with warfarin

	NOAC (events)	Warfarin (events)	RR (95% CI)	p
E-LY[5]*	134/6076	199/6022	0·66 (0·53–0·82)	0·0001
OCKET AF[6]†	269/7081	306/7090	0·88 (0·75–1·03)	0·12
RISTOTLE[7]‡	212/9120	265/9081	0·80 (0·67–0·95)	0·012
NGAGE AF–TIMI 48[8]§	296/7035	337/7036	0·88 (0·75–1·02)	0·10
ombined (random)	911/29312	1107/29229	0·81 (0·73–0·91)	<0·0001

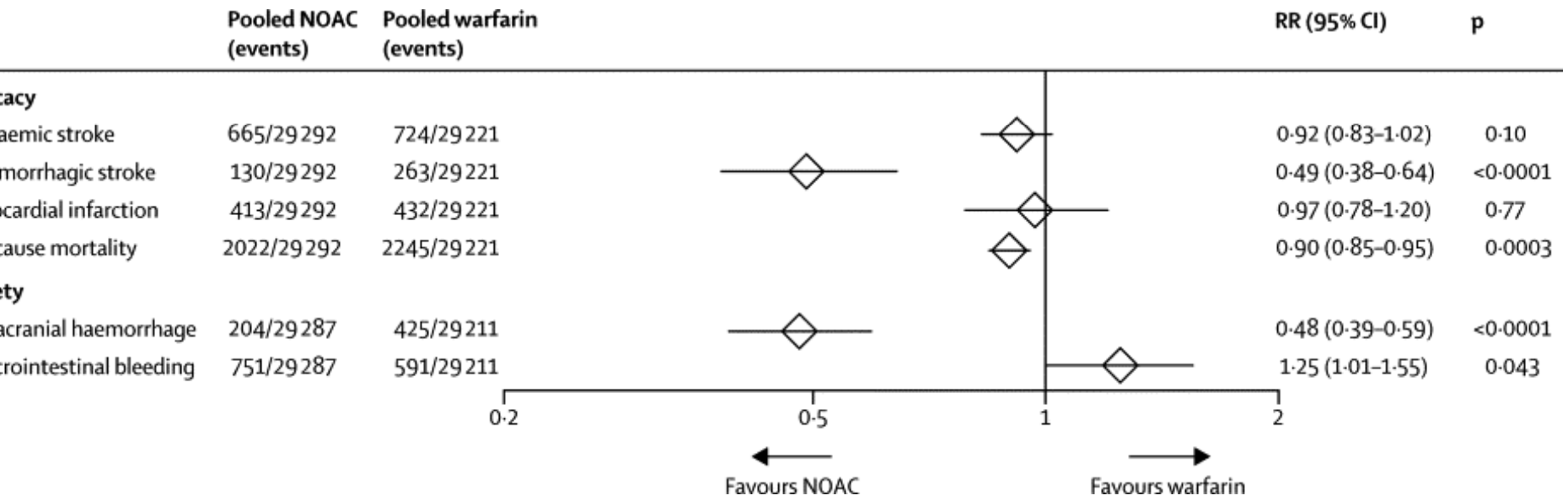


C.T Ruff Dr Lancet, The, 2014-03-15

benefit was mainly driven by a large reduction in haemorrhagic stroke.

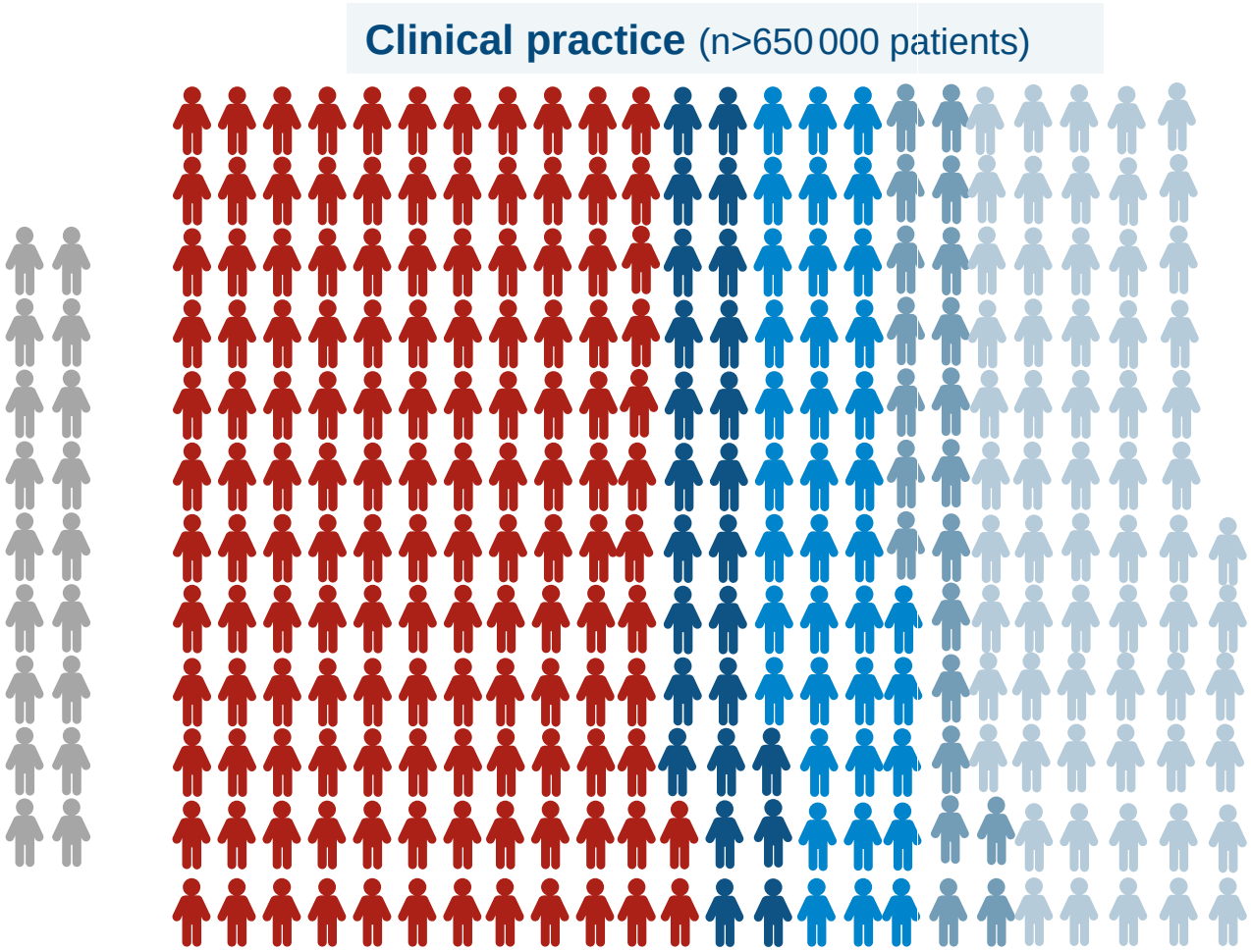
v oral anticoagulants were also associated with a significant reduction in all-cause mortality

drugs were similar to warfarin in the prevention of ischaemic stroke and myocardial infarction



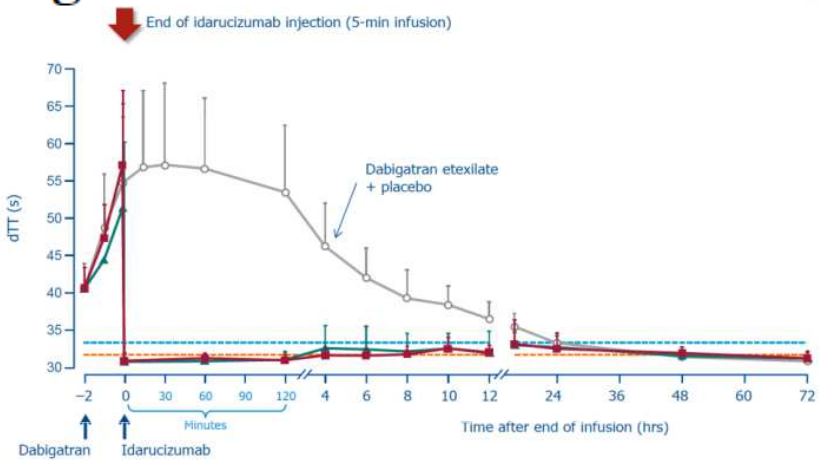
C.T Ruff Dr Lancet, The, 2014-03-15

Growing body of real-world experience from >650 000 patients



J Thromb Thrombolysis (2017) 44:527–535

Reversal of dabigatran-associated bleeding using idarucizumab: review of the current evidence



DICATION FOR USE OF THE ANTIDOTES

favor	Against
fe-threatening bleeding (intracranial bleeding or uncontrollable hemorrhage)	Elective surgery
leeding in a closed space or critical organ	Gastrointestinal bleeds that respond to supportive measures
ersistent major bleeding despite local hemostatic measures (or risk of recurrent bleeding because of delayed DOAC clearance or DOAC overdose)	High drug levels or excessive anticoagulation without associated bleeding
eed for urgent intervention that is associated with a high risk of bleeding that cannot be delayed to allow for drug clearance	Need for surgery or intervention that can be delayed long enough to permit drug clearance
mergency surgery or intervention in patients at high risk for procedural bleeding	

el mondo reale

studi di fase 3 possono essere tra loro non confrontabili.
udi 1:1 confronto diretto.

nsiderare il dosaggio adeguato al paziente e le interferenze farmacologiche

RE-LY[a] Dabigatran	ROCKET AF[b] Rivaroxaban	ARISTOTLE[c] Apixaban	ENGAGE-AF[d] Edoxaban *
• None – US Regulators • CrCl 15-30 mL/min: 75 mg BID • Age > 80 years • CrCl 30-50 mL/min + P-gp inhibitor, dronedarone, or ketoconazole	• 20 → 15 mg OD for – Creatinine clearance < 30-49 mL/min	• 5 → 2.5 mg BID for ANY TWO of –Age ≥ 80 years –Body weight ≤ 60 kg –Serum creatinine ≥ 15 mg/dL • US Regulators – Strong dual inhibitors of CYP3A4 and P-gp	•60 → 30 mg OD or 30 → 15 mg OD for – Creatinine clearance 30-50 mL/min – Body weight ≤ 60 kg – Use of quinidine, verapamil, or dronedarone

MCO/AIAC/SICI-GISE/SIC/SICCH Consensus Document: cutaneous occlusion of the left atrial appendage in -valvular atrial fibrillation patients: indications, ent selection, staff skills, organisation, and training

n Heart Journal Supplements (2017) 19 Supplement D

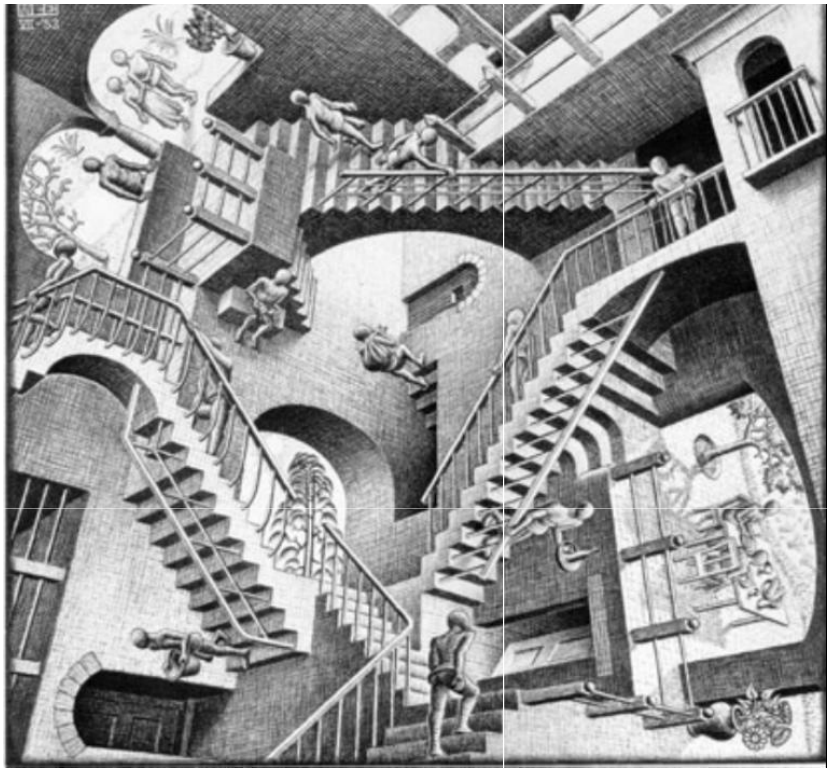
A/EAPCI44

alternative to OAT in patients intolerant of OAT
nts with high risk of stroke and high risk of haemorrhage
nts with thromboembolic events during OAT in the
rapeutic range or during treatment with NOACs (when
other origin of the bleeding can be identified)
nts who can be treated with oral anticoagulants but
have indication for left atrial appendage occlusion

- patients with non-valvular AF with high-thromboembolic risk and high-haemorrhagic risk (HAS-BLED ≥ 3);
- patients requiring triple antithrombotic therapy indefinitely;
- patients with tumours with increased risk of haemorrhage, underestimated by the HAS-BLED score;
- patients in whom OAT is ineffective in providing protection against cerebral ischaemic events probably correlated to thromboembolisms originating from the LAA;
- patients with kidney failure or undergoing dialysis, bearing in mind that all NOACs are contraindicated with creatinine clearance < 15 mL/min and that in these patients warfarin could increase tissue calcification and the degree of atherosclerosis;
- patients with major bleeding of the urogenital or gastrointestinal system, or any other districts, such as the ocular area;
- frail patients (the very old, dementia, neurodegenerative diseases, malnutrition, etc.);
- patients with difficulty in managing oral therapies (e.g. mental illnesses, vision impairment); and
- patients who, after being suitably informed about the OAT/NOACs therapy, refuse it and demand a 'definitive' therapy. In this context, it should be underlined that the Watchman has had approval by the US regulatory authority as a valid alternative to warfarin in patients who refuse or prefer not to take OAT.

GIANNI E FRANCO VISSERO FELICI E CONTENTI

CON LA FIBRILLAZIONE ATRIALE.



Grazie per l'attenzione