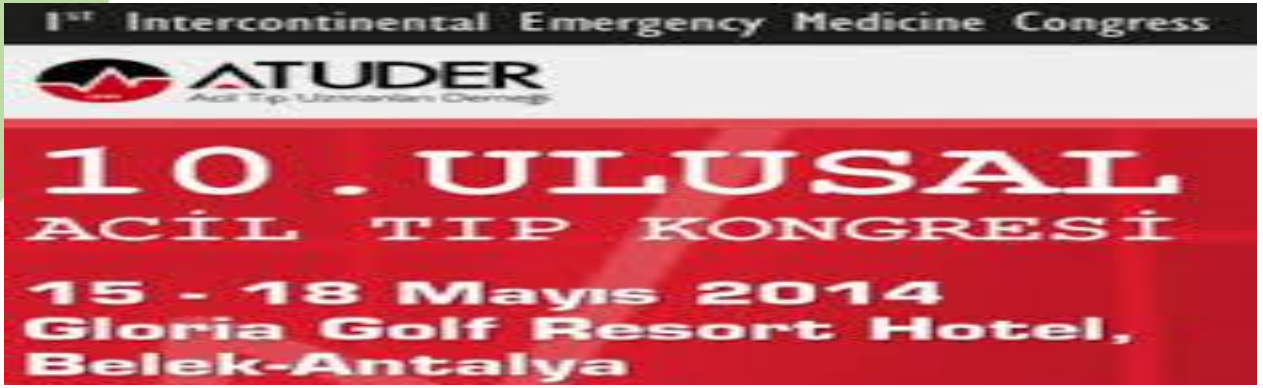


ACUTE ATRIAL FIBRILATION MANAGEMENT

Dr. Fran Moya
DIRECTOR OF INTERNATIONAL MEDICAL SERVICES
CONSULTANT IN EMERGENCY MEDICINE
ASSOCIATE PROFESSOR.UNIVERSITY OF MALAGA
CHAIR OF THE STROKE AND TRHOMBOSIS SECTION.EUROPEAN SOCIETY OF EMERGENCY MEDICINE (EuSEM)
MEMBER OF THE ESC

EUROPEAN SOCIETY OF CARDIOLOGY

UNIVERSITAS MALACITANA

European Society for Emergency Medicine (EuSEM)

Xanit Internacional Hospital

Xanit
Internacional
Hospital

OBJECTIVES

- AF OVERVIEW
- WHAT´S NEW?
- DISCUSSION

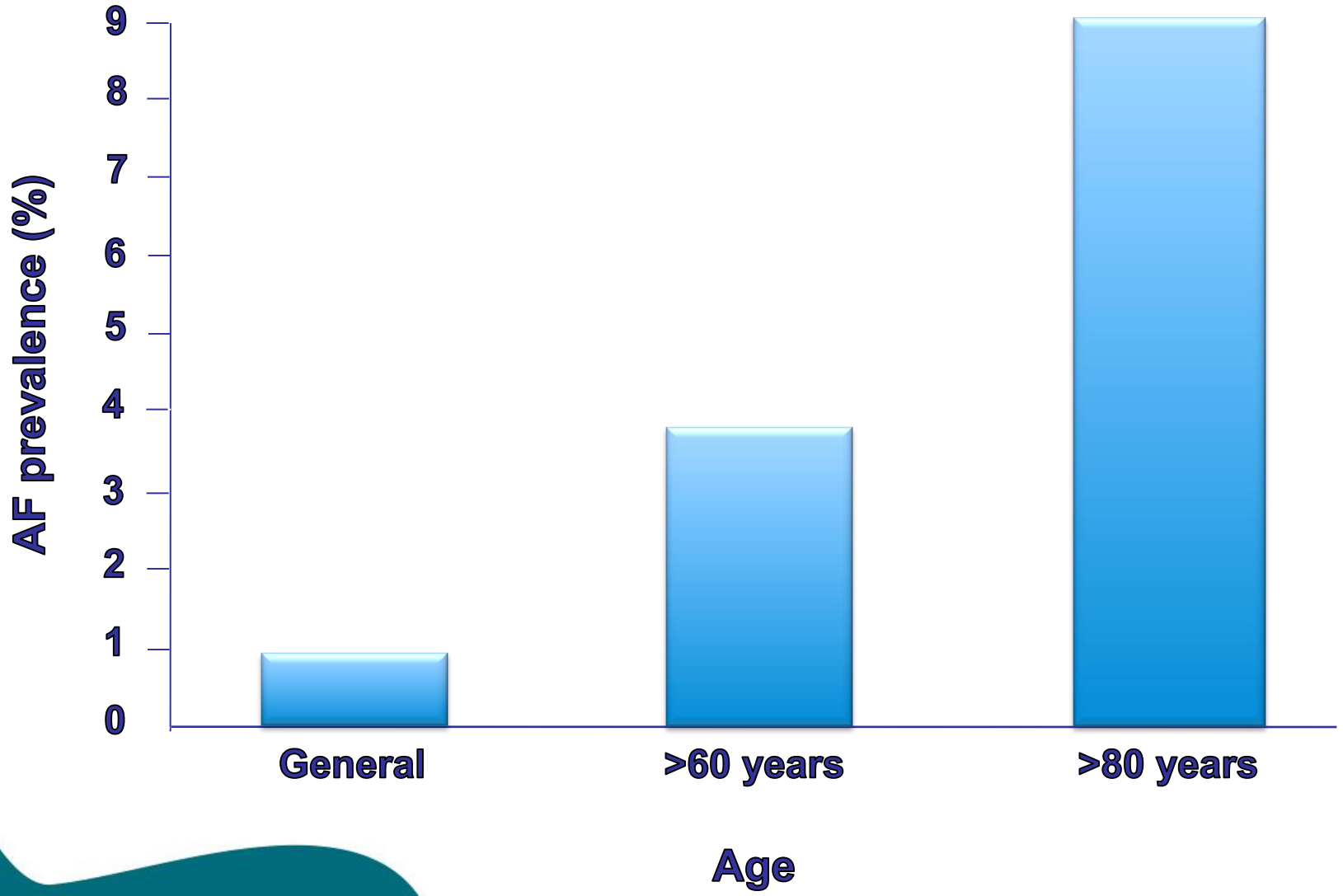
Xanit Internacional Hospital

Atrial fibrillation (AF)

- AF is the most common heart rhythm disturbance[1]
- It is estimated 1 in 4 individuals aged 40 years will develop AF[1]
- In 2007, 6.3 million people in the US, Japan, Germany, Italy, Spain, France and UK were living with diagnosed AF[2]
- Due to the aging population, this number is expected to double within 30 years[3]

1. Lloyd-Jones DM, et al. *Circulation* 2004;110:1042-1046.
2. Decision Resources. *Atrial Fibrillation Report.* Dec 2008.
3. Go AS, et al. *JAMA* 2001;285:2370-2375.

AF prevalence increases with age



1. Go AS, et al. *JAMA* 2001;285:2370-2375.

Clinical Events (outcomes) affected by AF

Outcome parameter	Relative change in AF patients
1. Death	Death rate doubled.
2. Stroke (includes haemorrhagic stroke and cerebral bleeds)	Stroke risk increased; AF is associated with more severe stroke
3. Hospitalisations	Hospitalisations are frequent in AF patients and may contribute to reduced quality of life.
4. Quality of life and exercice capacity	Wide variation from no effect to major reduction. AF can cause market distress trhough palpitations and other AF-related symptoms
5. Left ventricular function	Wide variation from no change to tachycardio-myopathy with acute heart failure.

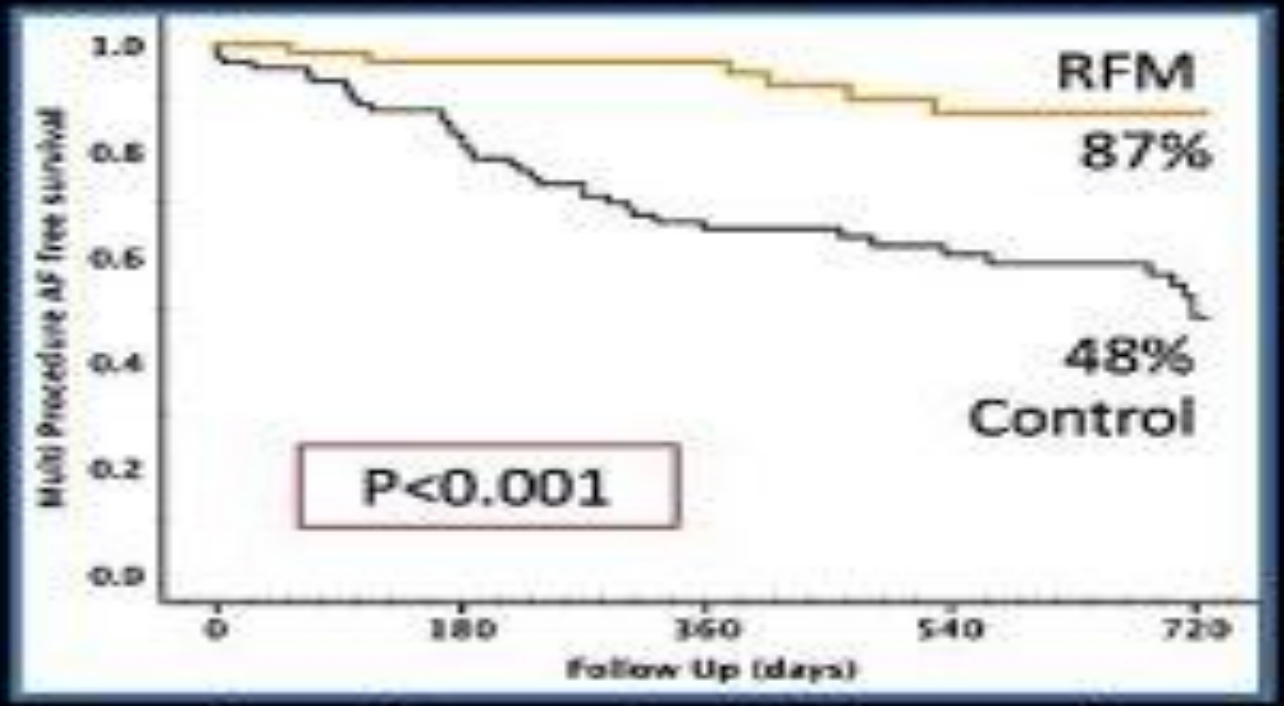
Conditions predisposing to, or encouraging progression of AF

- Hypertension
- Symptomatic heart failure (NYHA II - IV) including tachycardiomyopathy
- Valvular heart disease
- Cardiomyopathies including primary electrical cardiac disease
- Atrial septal defect and other congenital heart defects
- Coronary artery disease
- Thyroid dysfunction and possibly subclinical thyroid dysfunction
- Obesity
- Diabetes mellitus
- Chronic obstructive pulmonary disease (COPD) and sleep apnoea
- Chronic renal disease

ARREST-AF (Medscape May 11 2014)
Aggressive Risk Factor Reduction Study For Atrial Fibrillation

Multi procedure AF free survival

Control
No. of Procedure:
- 1: 37 (43%)
- ≥2: 49 (57%)



RFM
No. of Procedure:
- 1: 34 (54%)
- ≥2: 29 (46%)

Days	0	180	360	540	730
RFM	61	55	46	32	25
Control	88	72	51	36	23

AF increases the risk of stroke

- AF is associated with a pro-thrombotic state
- ~5 fold increase in stroke risk[1]
- Risk of stroke is the same in AF patients regardless of whether they have paroxysmal or sustained AF[2,3]
- Cardioembolic stroke has a 30-day mortality of 25%[4]
- AF-related stroke has a 1-year mortality of ~50%[5]

1. Wolf PA, et al. *Stroke* 1991;22:983-988;
2. Rosamond W et al. *Circulation.* 2008;117:e25–146;
3.Hart RG, et al. *J Am Coll Cardiol* 2000;35:183-187;
4. Lin H-J, et al. *Stroke* 1996; 27:1760-1764; 5. Marini C, et al. *Stroke* 2005;36:1115-1119.

Stroke

- Up to 3 million people worldwide suffer strokes related to AF each year[1-3]
- AF-related strokes tend to be especially severe and disabling with half of patients dying within 1 year[3]

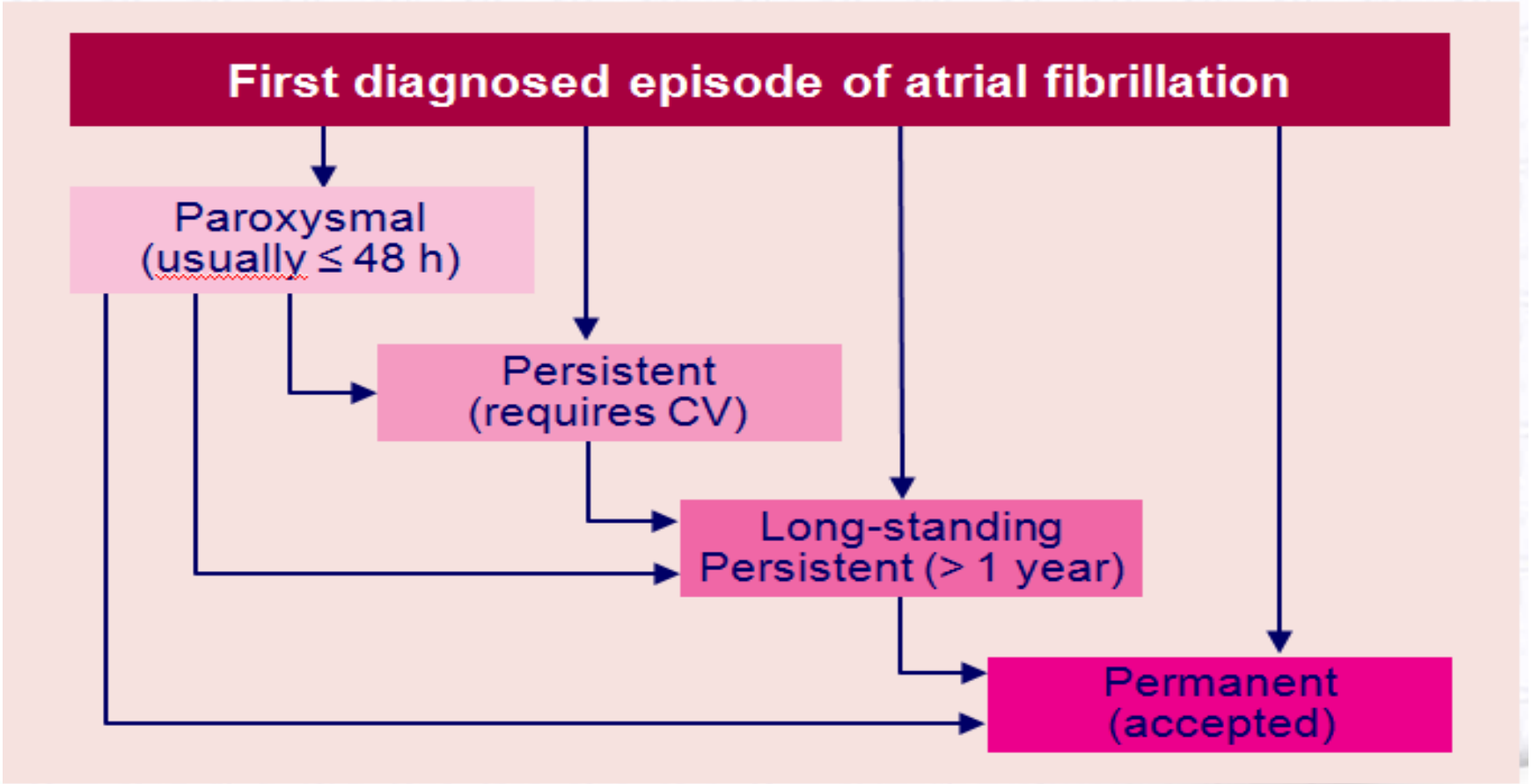
1. Atlas of Heart Disease and Stroke, World Health Organization, September 2004. Viewed at http://www.who.int/cardiovascular_diseases/en/cvd_atlas_15_burden_stroke.pdf
2. Wolf PA, Abbott RD, Kannel WB. Atrial fibrillation as an independent risk factor for stroke: the Framingham Study. *Stroke 2.* 1991:22(8);983-8
3. Lin HJ, Wolf PA, Kelly-Hayes M, *et al*. Stroke severity in atrial fibrillation: the Framingham study. *Stroke* 1996;27:1760-4

AF-related stroke is preventable

- ✓ 2/3 of strokes due to AF are preventable with appropriate anticoagulant therapy with a vitamin-K-antagonist (INR 2-3)[1]
- ✓ Anticoagulation with a vitamin-K-antagonist (VKA) is recommended for patients with more than 1 moderate risk factor[2]
- ✓ A meta-analysis of 29 trials in 28,044 patients showed that adjusted-dose warfarin results in a reduction in ischaemic stroke and in all-cause mortality[1].

1. Atlas of Heart Disease and Stroke, World Health Organization, September 2004. Viewed at http://www.who.int/cardiovascular_diseases/en/cvd_atlas_15_burden_stroke.pdf
2. Wolf PA, Abbott RD, Kannel WB. Atrial fibrillation as an independent risk factor for stroke: the Framingham Study. *Stroke 2.* 1991:22(8);983-8
3. Lin HJ, Wolf PA, Kelly-Hayes M, *et al*. Stroke severity in atrial fibrillation: the Framingham study. *Stroke* 1996;27:1760-4

Types of Atrial Fibrillation



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

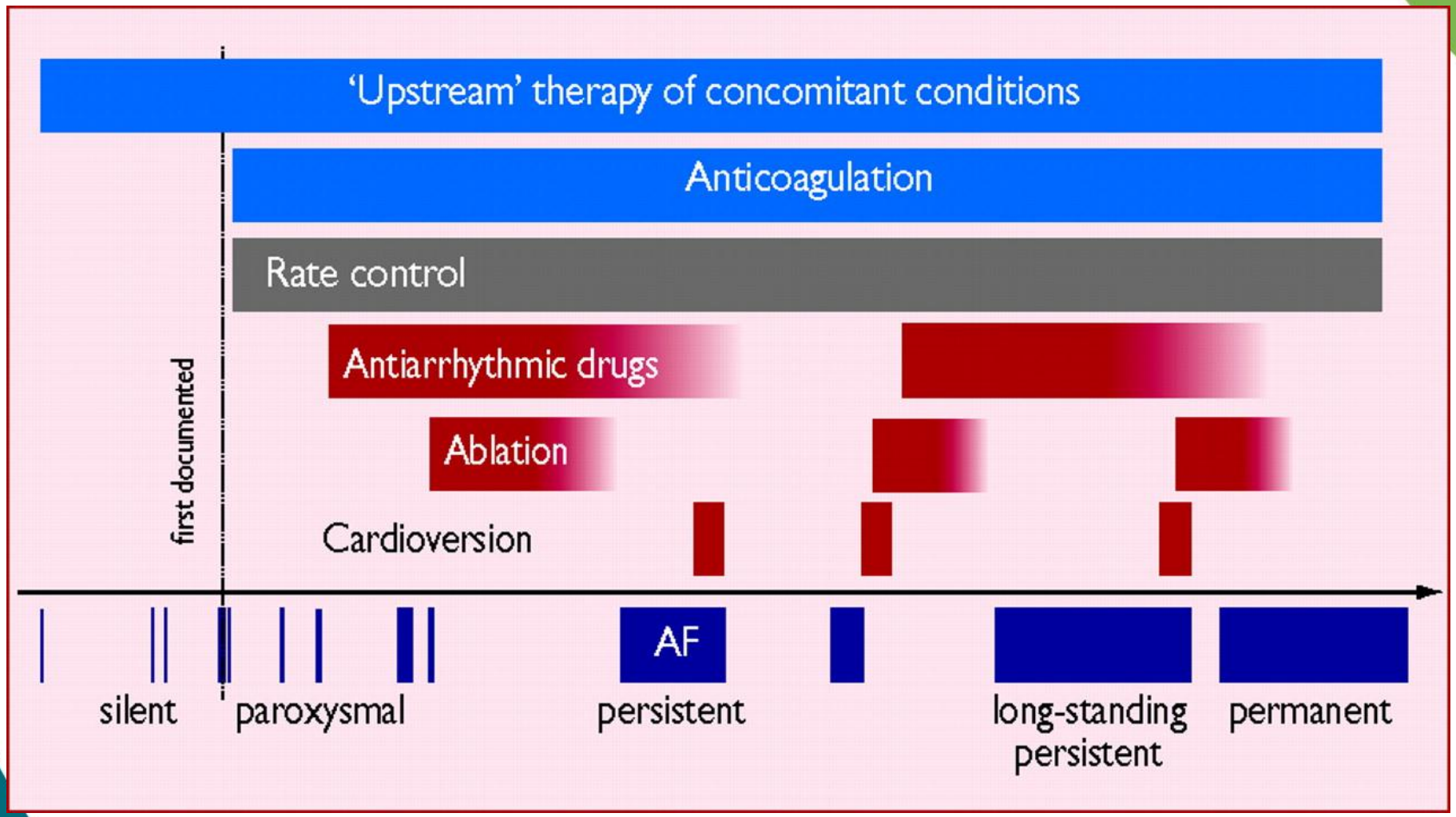
ESC GUIDELINES

Guidelines for the management of atrial fibrillation

The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC)

Developed with the special contribution of the European Heart Rhythm Association (EHRA)[†]

NATURAL TIME COURSE OF ATRIAL FIBRILATION



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European Heart Journal

EHRA score of AF-related symptoms

Classification of AF-related symptoms (EHRA score)	
EHRA class	**Explanation**
EHRA I	'No symptoms'
EHRA II	'Mild symptoms'; normal daily activity not affected
EHRA III	'Severe symptoms', normal daily activity affected
EHRA IV	'Disabling symptoms'; normal daily activity discontinued

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CHADS2-VASc SCORE

RISK FACTORS	SCORE
Cardiac Impairment	1
Hypertension	1
Age > 75 años	2
Diabetes mellitus	1
Stroke or previousTIA	2
Vascular Disease (*)	1
Age 65-74	1
Sex (Female)	1
Maximum Score	9

(*) Previous MI, Peripheral Arteriopathy, Ateromatous Plaque in Ao


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- 0: Low Risk
- 1: Intermidiate Risk
- ≥2 High Risk

HAS BLED SCORE

Letter	Clinical characteristic[a]	Points awarded
H	Hypertension	1
A	Abnormal renal and liver function (1 point each)	1 or 2
S	Stroke	1
B	Bleeding	1
L	Labile INRs	1
E	Elderly (e.g. age >65 years)	1
D	Drugs or alcohol (1 point each)	1 or 2
		Maximum 9 points

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OAC RECOMMENDATIONS

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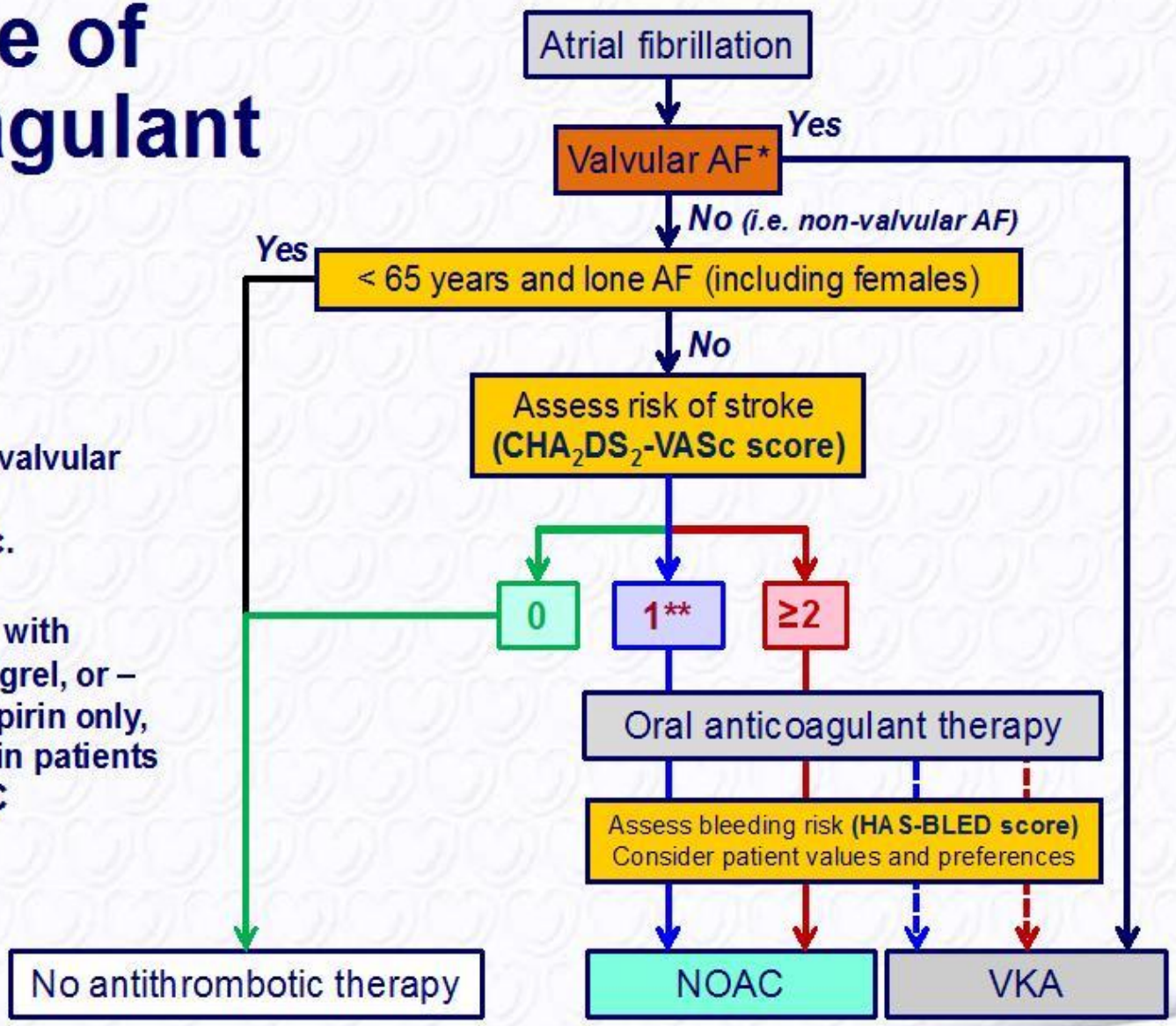
Table 9 Approach to thromboprophylaxis in patients with AF

Risk category	CHA_2DS_2-VASc score	Recommended antithrombotic therapy
One 'major' risk factor or ≥2 'clinically relevant non-major' risk factors	≥ 2	OAC[a]
One 'clinically relevant non-major' risk factor	1	Either OAC[a] or aspirin 75–325 mg daily. Preferred: OAC rather than aspirin.
No risk factors	0	Either aspirin 75–325 mg daily or no antithrombotic therapy. Preferred: no antithrombotic therapy rather than aspirin.

Choice of Anti-coagulant



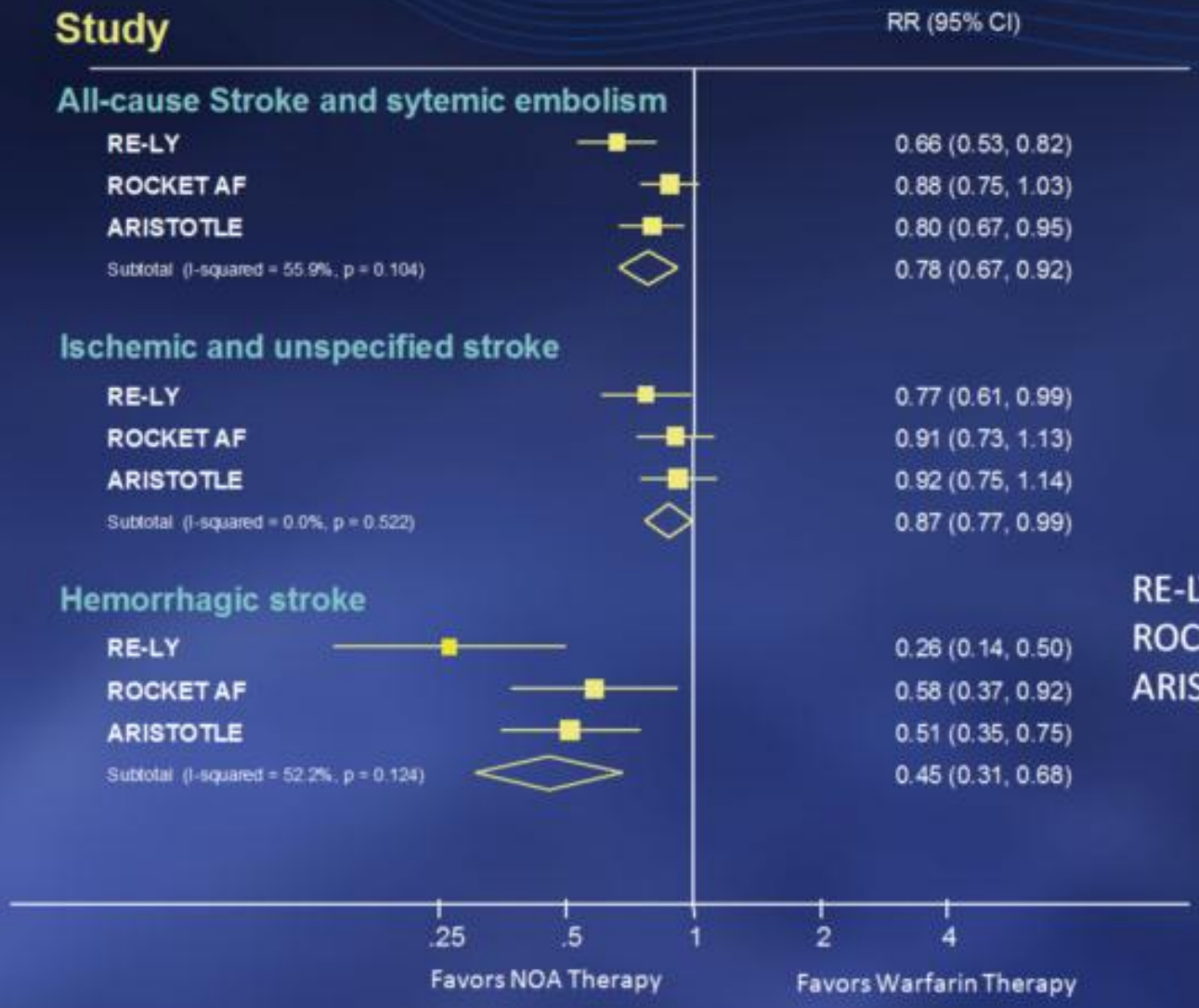
- Includes rheumatic valvular AF, hypertrophic cardiomyopathy, etc.

** Antiplatelet therapy with aspirin plus clopidogrel, or – less effectively – aspirin only, may be considered in patients who refuse any OAC

European Heart Journal 2012;33:2719-2747 - doi:10.1093/eurheartj/ehs253

New oral coagulants versus warfarin in patients with AF

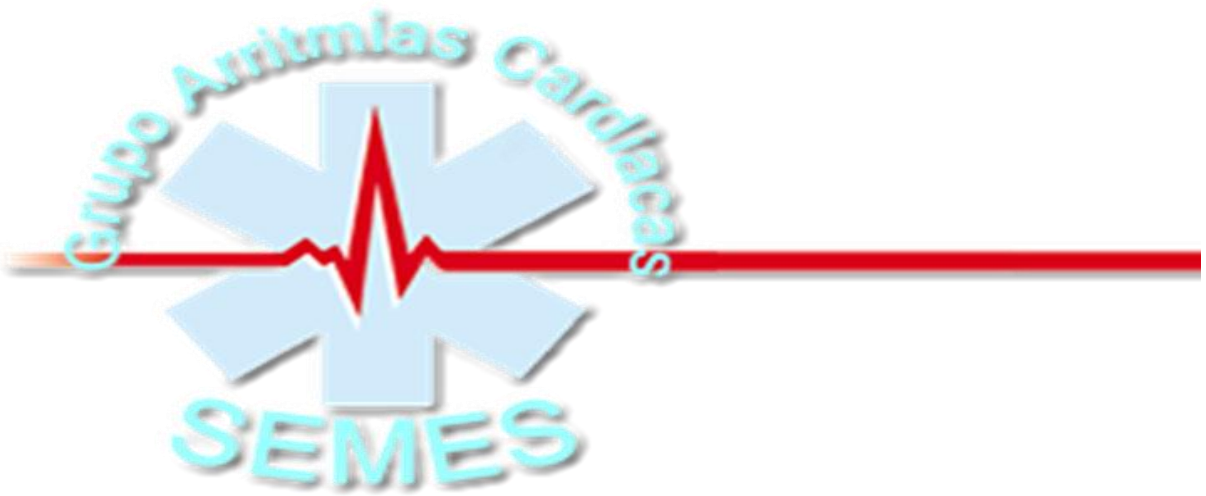
EUROPEAN PRIMARY CARE CARDIOVASCULAR SOCIETY



RE-LY: dabigatran;
ROCKET AF: rivaroxaban;
ARISTOTLE: apixaban

Miller SC et al. April 27,Am J Cardiol 2012

RHYTHM AF



RHYTHMAF

International Registry on
Cardioversion for Atrial Fibrillation

A. Martin Martinez, A. Fernández de Simón, F. Malagón Caussade
C. Suero Méndez, M.. Varona Peinador. *G. Nocea Pulfer,
en representación de los investigadores del estudio RHYTHM-AF Spain.
Grupo Arritmias Cardiacas, SEMES . *MSD España.

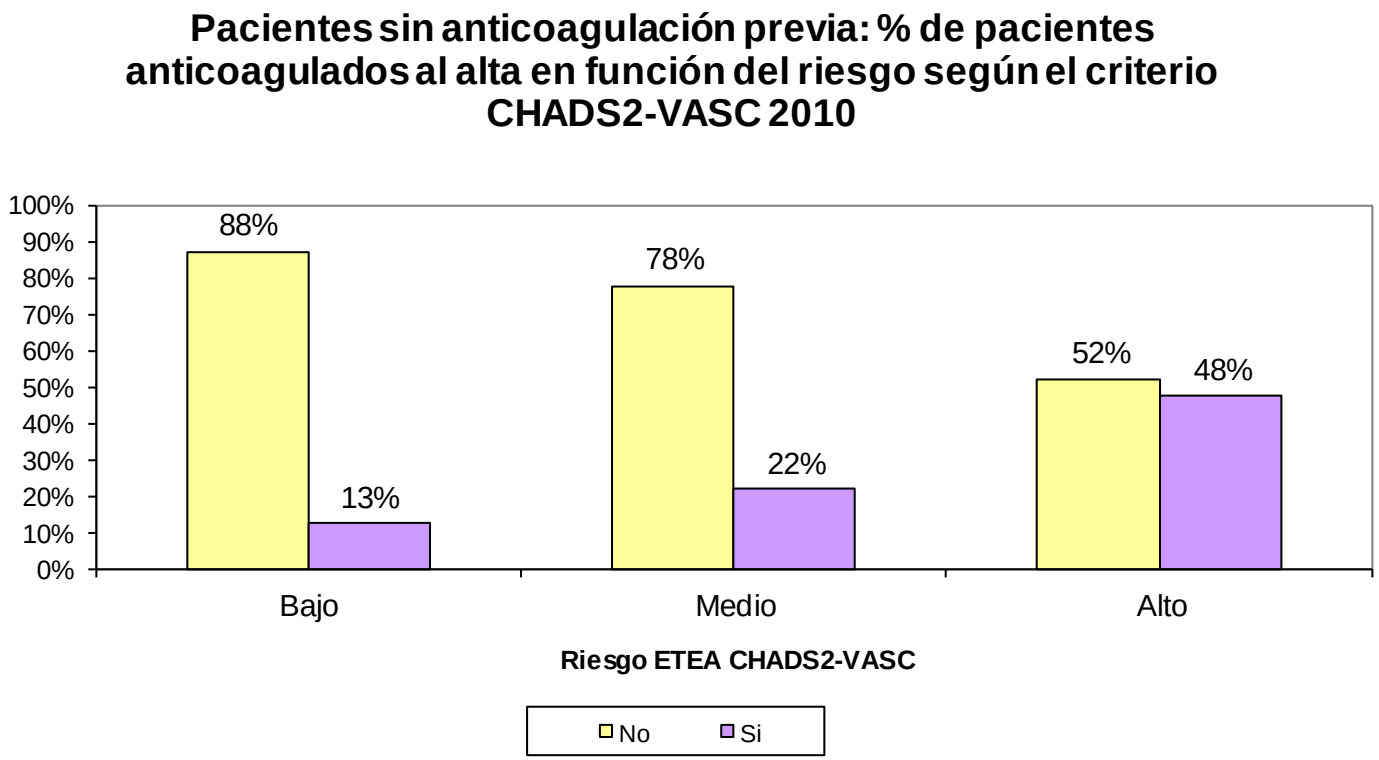
RHYTHMAF

International Registry on Cardioversion for Atrial Fibrillation

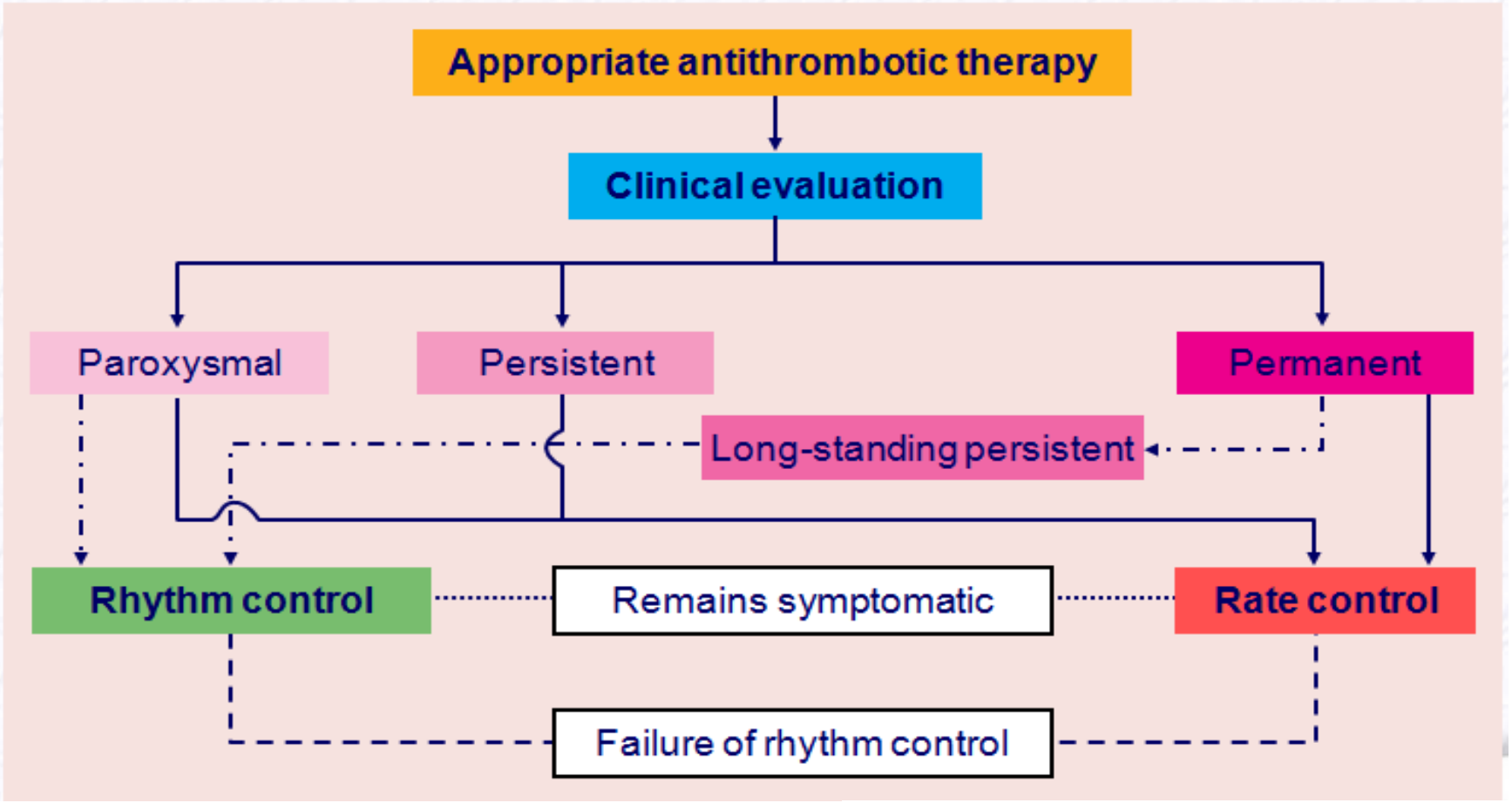
- **Design**: prospective multi-center registry
- **Breadth**: multinational
  - Australia - Germany - Poland - United Kingdom
  - Brazil - Italy **- Spain**
  - France - Netherlands - Sweden
- **Sample**
  - 175 centers
  - 4,300 total patients
- **Timeline**: One year enrollment (May 2010-June 2011)
  - 60-day follow up for all countries except Spain
- **Promoter:** MSD

RHYTHM-AF: Resource utilization associated with antiarr**HY**thmic **TH**erapies used for achieving nor**M**al sinus rhythm in **A**trial **F**ibrillation patients

RESULTS PATIENTS DISCHARGED ON OAC



Choice of rate and rhythm control strategies



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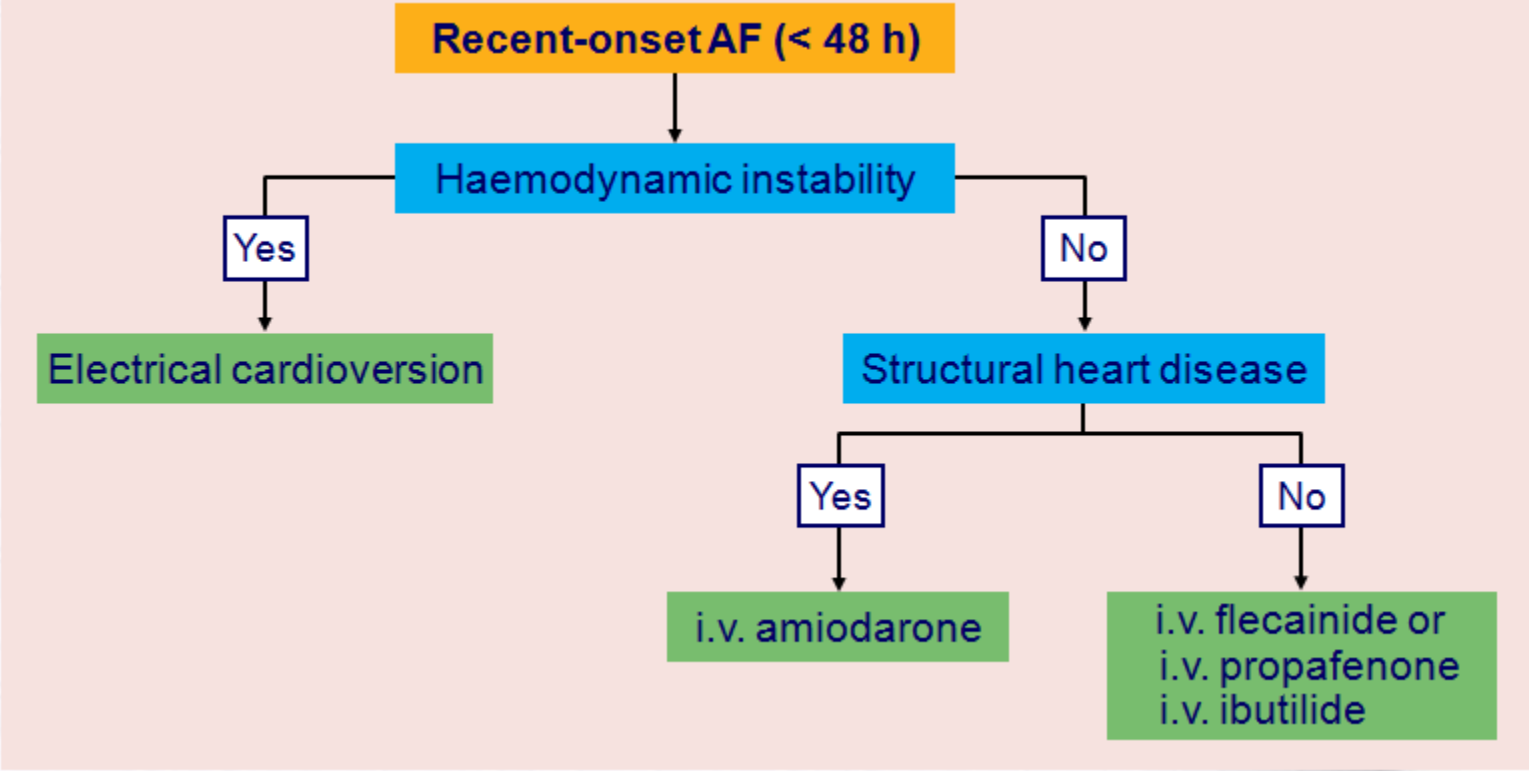
DCC and pharmacological conversion recent-onset AF



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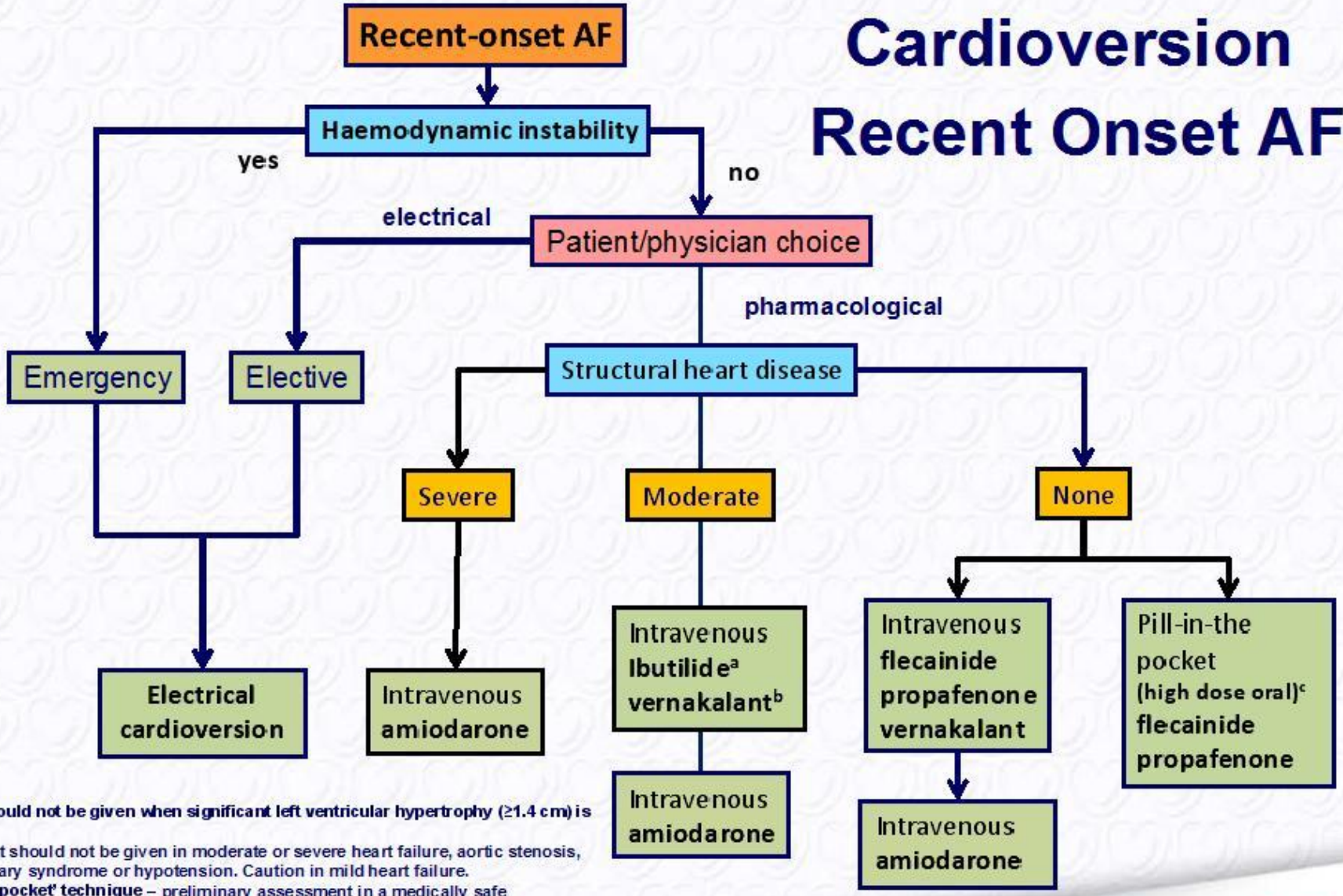
Cardioversion Recent Onset AF



[a]Ibutilide should not be given when significant left ventricular hypertrophy (≥1.4 cm) is present.
[b]Vernakalant should not be given in moderate or severe heart failure, aortic stenosis, acute coronary syndrome or hypotension. Caution in mild heart failure.
[c]'Pill-in-the-pocket' technique – preliminary assessment in a medically safe environment and then used by the patient in the ambulatory setting.

European Heart Journal 2012;33:2719-2747 - doi:10.1093/eurheartj/ehs253

www.escardio.org/guidelines

EUROPEAN SOCIETY OF CARDIOLOGY®

IBUTILIDE

- Class III
- Only IV
- Ibutilide prolongs repolarization in atrial and ventricular myocardium
- DOSES: More than 60 kgs: 1 mg IV in 10 mins.Less than 60 kgs 0,1 mg/kg in 10 mins.May repeat 1 more in 20 mins.
- PRICE: 280 Euros per vial (aprox)

IBUTILIDE CONTRAINDICATIONS

- Hipersensitivity to Ibutilide
- Prolonged non corrected QT interval more than 440 ms,severe Bradicardia,Sinus Syndrome or 2nd and 3rd degree Heart Block in absence of Pacemaker
- Use of class I or III antiarrythmics 4 hours pre or post administration of Ibutilide

Safety and efficacy of ibutilide in cardioversion of atrial flutter and fibrillation J Am Board Fam Med. 2011 Jan-Feb;24(1):86-92

Safety and effectiveness are the goals in treating patients with arrhythmias. In an open prospective study, we observed the efficacy and safety of up to 2 mg intravenous ibutilide, a new class III antiarrhythmic agent in haemodynamically stable patients presenting in the emergency department (ED) with symptoms of recent-onset (<48 h) atrial fibrillation/flutter. Arrhythmia termination within 90 min, haemodynamic parameters and proarrhythmic effects were assessed. Non-responders to the ibutilide infusion underwent external electrical cardioversion. We included 51 patients. In 31 patients therapeutic intervention with intravenous ibutilide was successful within 90 min (61%). In another seven patients conversion to sinus rhythm occurred after 90 min without any other intervention (14%). Blood pressure remained stable and no relevant proarrhythmic effects were observed. The 13 patients who did not respond to ibutilide treatment underwent successful external electrical cardioversion. The overall conversion rate was 100%. Forty-seven patients (92%) were discharged within a median of 9 h and managed as outpatients. In conclusion,the short duration of admission makes this strategy attractive for use in the ED.

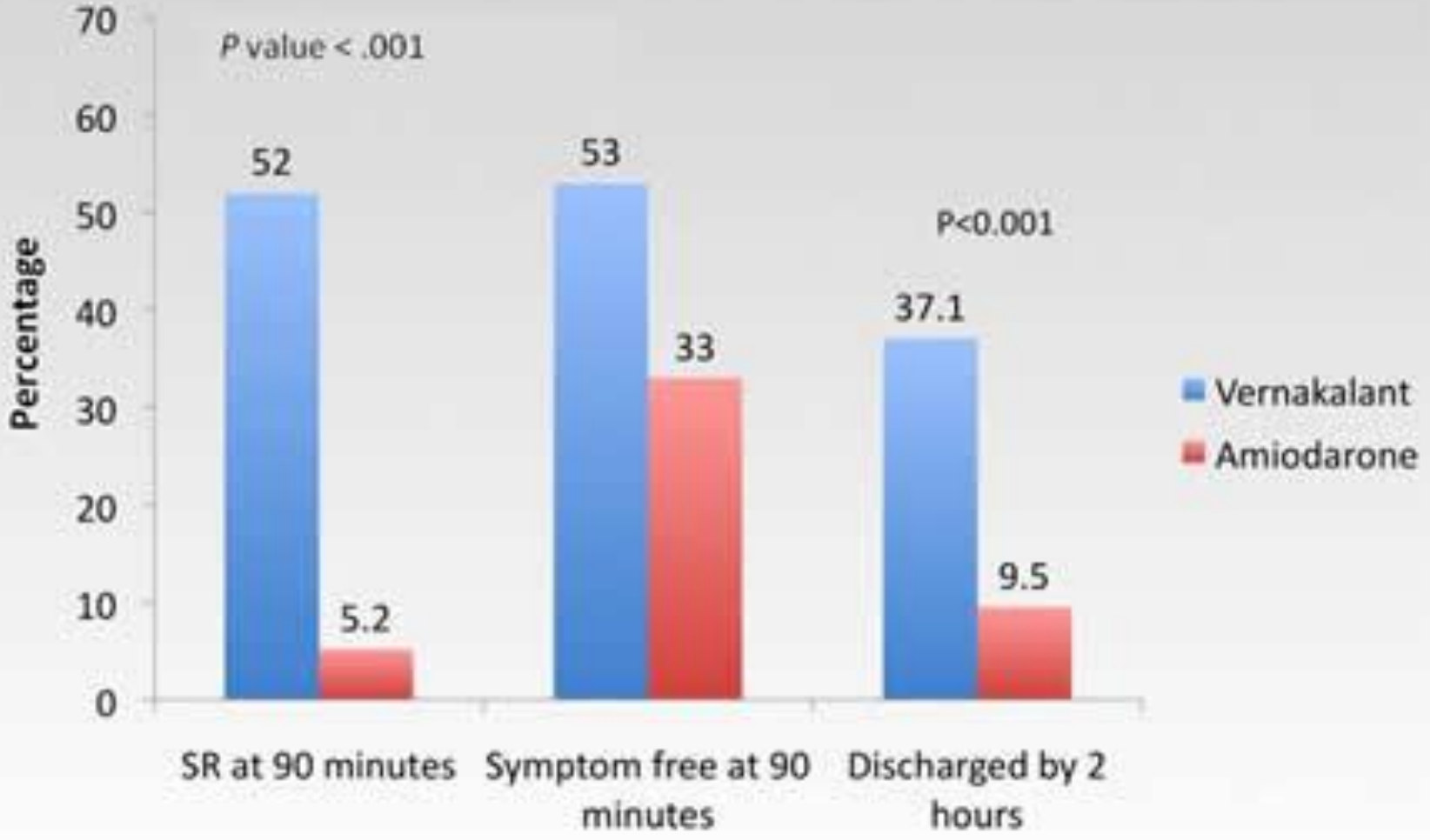
VERNAKALANT

- Multiple ion channel blocker
  - Targeted to AF
- Relatively atrial selective
- Rapid conversion of atrial fibrillation
- Pharmacologic effects consistent with ion channel blocking profile
- IV only
- DOSES:3 mg/kg in 10 mins.2 mg/kg in 10 mins as second.
- PRICE:Aproximately 450 Euros/vial

VERNAKALANT CONTRAINDICATIONS

- Hipersensitivity to Vernakalant
- Prolonged non corrected QT interval more than 440 ms,severe Bradicardia,Sinus Syndrome or 2nd and 3rd degree Heart Block in absence of Pacemaker
- Severe Aortic Estenosis,BP less than 100 mmHg,Class NYHA III and IV HF
- Use of class I or III antiarrythmics 4 hours pre or post administration of Vernakalant
- ACS in the last 30 days

Efficacy of Vernakalant and Amiodarone for Cardioversion of Recent-Onset AF



van Gelder I, et al. Cardiostim 2010. Nice, France.

CONCLUSIONS

- BE AWARE OF THE NEW APPROACH TO MANAGE ACUTE AF
- MULTIDISCIPLINAR APPROACH
- ADAPT CURRENT GUIDELINES TO YOUR OWN EMERGENCY DEPARTMENT
- ADAPT CURRENT GUIDELINES TO YOUR OWN PATIENT

Control del ritmo en la FA

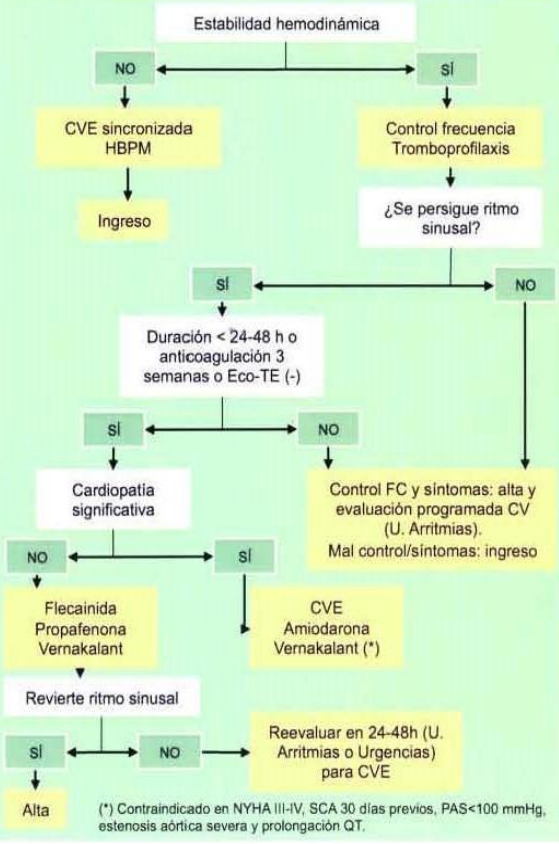
Condicionantes a favor

- Primer episodio de FA.
- Historia previa de FA paroxística (NO persistente/ permanente).
- FA secundaria a enfermedad transitoria/corregible (sd. febril, hipertiroidismo, cirugía, sustancias abuso, etc.).
- FA que produce sintomatología grave (ángor, ICC, síncope).
- Elección del paciente.

Factores en contra

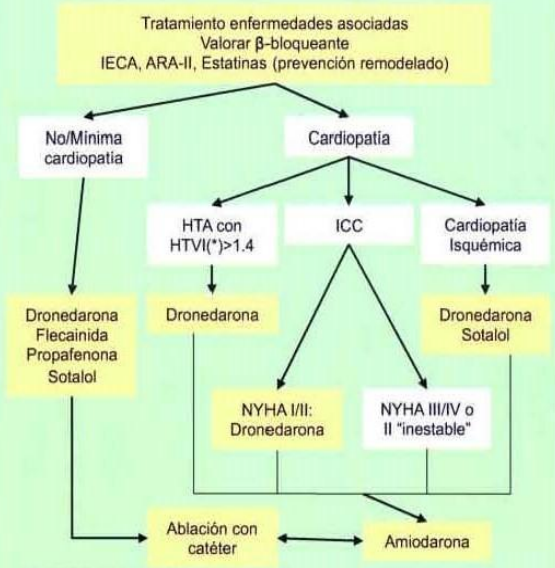
- Alta probabilidad de recurrencia precoz o tardía (*).
- Duración de la arritmia > 1 año (*).
- Antecedente de al menos 2 CVE previas o fracaso de 2 fármacos antiarrítmicos para mantener el ritmo sinusal (*).
- Recaída precoz (<1mes) tras la cardioversión (*).
- Valvulopatía mitral o AI severamente dilatada (>55 mm).
- Rechazo del paciente.

(*) Candidatos a ablación con catéter (Unidad de Arritmias)



(*) Contraindicado en NYHA III-IV, SCA 30 días previos, PAS<100 mmHg, estenosis aórtica severa y prolongación QT.

Mantenimiento del ritmo sinusal post-CV



(*) HTVI: Hipertrofia del ventrículo izquierdo.

Fármacos de control del ritmo en la FA

- **Dronedarona:**
  Dosis de carga: No aplicable.
  Dosis de mantenimiento: 400 mg/12 h v.o. (1 comp/12 h).
- **Flecainida:**
  Dosis de carga: 200-300 mg v.o. (2-3 comp) (2 mg/kg i.v. en 1 hora (max 150 mg)).
  Dosis de mantenimiento: 100 mg/12 h v.o. (1 comp/12 h).
- **Propafenona:**
  Dosis de carga: 450-600 mg v.o.
  Dosis de mantenimiento: 150-300 mg/8 h v.o. (1 comp/8 h).
- **Sotalol:**
  Dosis de carga: No aplicable.
  Dosis de mantenimiento: 80-160 mg/12 h v.o. (1 comp/12 h).
- **Vernakalant:**
  Dosis de carga: 3 mg/kg i.v. en 10 min (Segunda infusión tras 15 min: 2 mg/kg).
  Dosis de mantenimiento: No aplicable.

CARDIOPATÍA ESTRUCTURAL SIGNIFICATIVA:

Para el tratamiento antiarrítmico es significativa toda cardiopatía salvo:

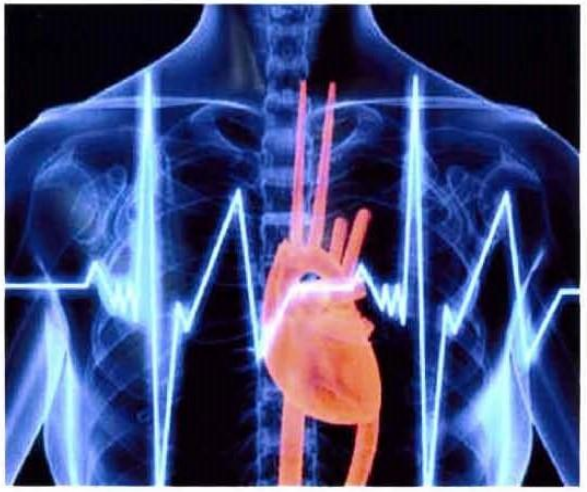
1 Miocardio hipertensiva con HT de VI leve/moderada (espesor <1.4 cm).

2 Prolapso mitral sin insuficiencia valvular.

3 Otras valvulopatías sin trascendencia hemodinámica (esclerosis o deformidades valvulares con insuficiencia o estenosis triviales/leves).

Adaptado de ESC Guidelines for the diagnosis and treatment of atrial fibrillation (2010). European Heart Journal 2010; 31: 2369-2429

GUÍA CLÍNICA PARA EL MANEJO DE LA FIBRILACIÓN AURICULAR



Servicio de Urgencias
Servicio de Cardiología
Instituto Cardiovascular
Servicio de Medicina Interna
Servicio de Geriatría

2011

Hospital Clínico San Carlos
Madrid

Definiciones

- ECG con las siguientes características: 1. Intervalos R-R irregulares. 2. No hay ondas P. 3. Longitud del ciclo auricular <200 ms (>300 lpm).
- Paroxística: autolimitada normalmente ≤ 48 h (hasta 7 días).
- Persistente: > 7 días o requiere cardioversión.
- Permanente: control de frecuencia (NO control del ritmo).

Condiciones asociadas a la FA

- Envejecimiento
- HTA, obesidad, DM y hábito enólico
- Insuficiencia Cardíaca y Cardiopatía Isquémica
- Miocardiopatías y Taquimiocardiopatías
- Valvulopatías y defectos cardíacos congénitos (CIA)
- Disfunción tiroidea
- EPOC y SAOS
- Insuficiencia Renal Crónica

Pruebas Complementarias

- Hemograma y Tiempos de coagulación
- Bioquímica: glucosa, electrolitos, perfil renal, hepático y enzimas cardiacas
- Electrocardiograma
- Radiografía de tórax
- Pulsioximetría y Gasometría venosa
- Considerar: Gasometría arterial, D-Dímeros, PCR, BNP, hormonas tiroideas
- Ecocardiograma y Holter-ECG (posterior al manejo agudo)

Puntuación EHRA de los síntomas por FA

EHRA I	Sin síntomas
EHRA II	Síntomas leves: la actividad diaria normal no está afectada
EHRA III	Síntomas graves: actividad diaria normal afectada
EHRA IV	Síntomas incapacitantes: se interrumpe la actividad diaria normal

EHRA: European Heart Rhythm Association

Prevención del tromboembolismo en la FA (paroxística/persistente/permanente)

Clasificación del riesgo de tromboembolia: Clasificación CHA_2DS_2VASC

Factores de riesgo	Puntos
• ICC / FEVI ≤ 35%	1
• HTA	1
• Edad > 75 años	2
• DM	1
• Ictus isquémico/AIT o embolia arterial periférica	2
• Enfermedad Vascular (*)	1
• Edad 65-74 años	1
• Sexo femenino	1

(*) IAM previo, enfermedad arterial periférica, placa aórtica

Recomendaciones terapéuticas

0 puntos	NO tratamiento (o Antiagregación) (a)
1 punto	ANTICOAGULACIÓN (o Antiagregación) (a)
≥ 2 puntos	ANTICOAGULACIÓN

FA + valvulopatía/prótesis valvular: ANTICOAGULACIÓN (b)

CV eléctrica/farmacológica: ANTICOAGULACIÓN(c)

(a) Individualizar según riesgo sangrado y preferencias del paciente

(b) Indefinida

(c) Indefinida/Definida según clasificación CHA2DS2VASC

Riesgo de hemorragia: Clasificación HAS-BLED

H	Hipertensión	1
A	Función renal/hepática alterada	1 o 2
S	Accidente cerebrovascular	1
B	Sangrado	1
L	INR lábil	1
E	Edad avanzada (>65 años)	1
D	Fármacos o alcohol	1 o 2

≥ 3 puntos: riesgo elevado: precaución y control estricto

Fármacos anticoagulantes orales

- **Acenocumarol** (INR 2-3)
- **Inhibidores directos trombina** (no requiere controles):
  - Dabigatran etexilato*: **150mg/12 h** (menor tasa de ictus);dosis recomendada 110mg/12 h (menor tasa de hemorragia)

* 110 mg/12 h en ≥80 años o tratamiento con verapamilo (separar 2 h admón).
* Paciente con riesgo alto hemorragia: si APTT>80s, aclaramiento 30-50 mL/min o edad entre 75-80 años considerar 110mg/12h.
* Contraindicado con aclaramiento menor de 30 mL/min o tratamiento con ketaconazol, itraconazol, tacrolimus o ciclosporina.
* El efecto anticoagulante queda revertido en 12-48 h según aclaramiento
* Si sangrado activo forzar diuresis y valorar plasma o complejo protrombínico.

* Inhibidores del factor Xa (en investigación): Rivaroxaban, Apixaban

Control agudo de la frecuencia cardíaca en la FA

OBJETIVO: FC 80-100 lpm

Tratamiento causas ¿ICC actual?

NO	SI
βbloqueantes ACC (*)	Digoxina i.v.
Asociar Digoxina	Diltiacem i.v.
Amiodarona	Amiodarona

(*) ACC: Antagonistas de los Canales de Calcio.

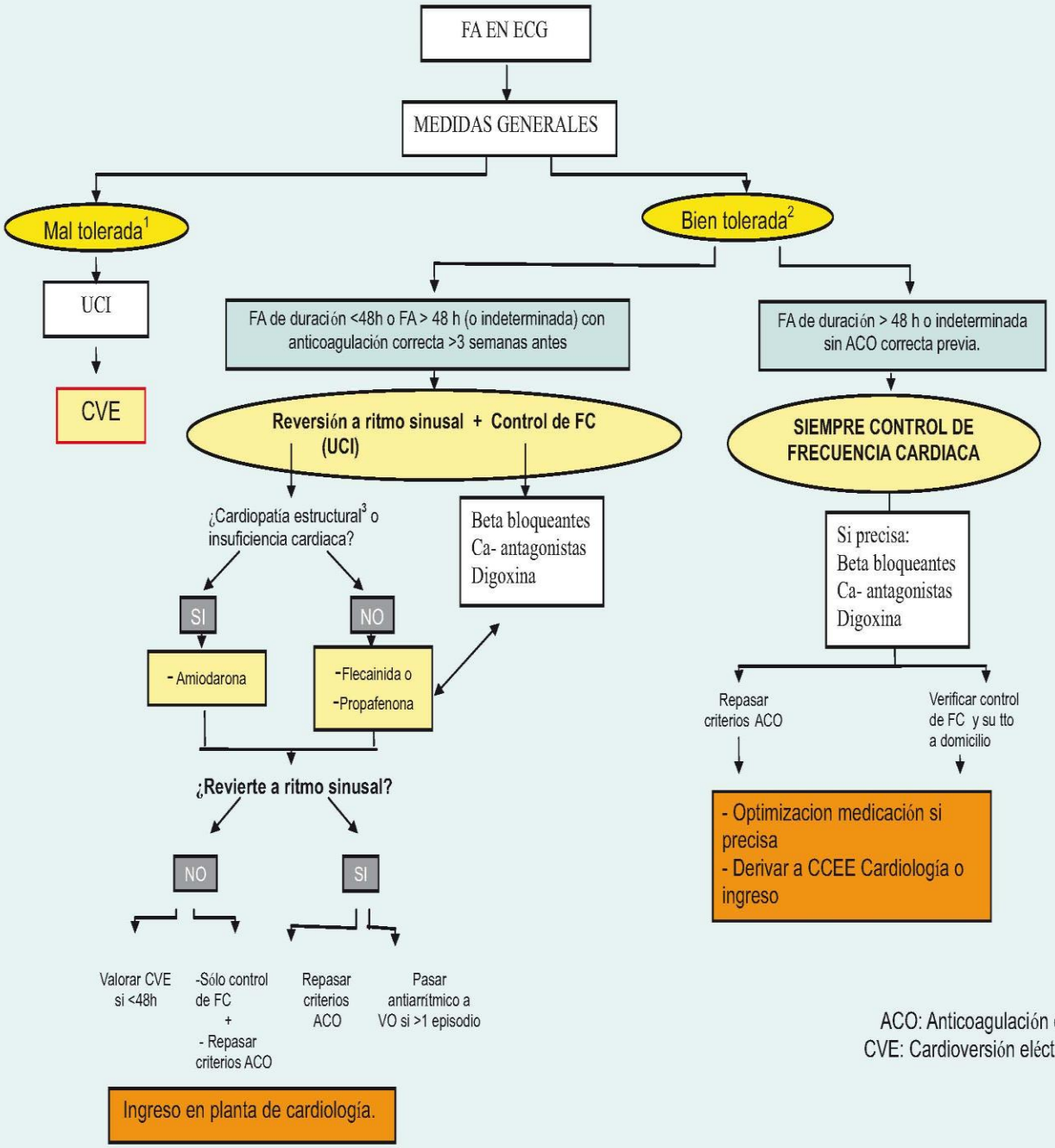
Fármacos de control frecuencia cardíaca en la FA

Betabloqueantes (indicados en isquemia miocárdica/tono adrenérgico elevado/ICC crónica, NO en EPOC)
- Propranolol: 10-40 mg/8 h v.o (1 mg i.v.)
- Atenolol: 25-100 mg/24 h v.o.
- Metoprolol: 100-200 mg/24h (FLP) v.o. (2.5-5 mg i.v.)
- Bisoprolol (2.5-10 mg/24h v.o.), Carvedilol (3.125-25 mg/12h v.o.)

ACC (contraindicados en IC sistólica)
- Diltiazem: 60 mg/8h-360 mg/24h (FLP) v.o. (15-20 mg i.v.)
- Verapamilo: 40 mg/12h-360 mg/24h (FLP) v.o. (5 mg i.v.)

Digoxina (no control de frecuencia en ejercicio)
- Digitalización rápida: 0.75-1-5 mg/24 h i.v.
- Dosis mantenimiento: 0.125-0.5 mg/24h v.o.

Amiodarona (bien tolerada si inestabilidad hemodinámica, efectos adversos extracardíacos frecuentes a largo plazo)
- Inicio: 5 mg/kg (2 amp) en 1h y 50 mg/h i.v. de mantenimiento (6-8 amp/24 h)
- Largo plazo: 100-200 mg/24 h v.o.



ACO: Anticoagulación oral
CVE: Cardioversión eléctrica

"Protocolo para el manejo de la FA en urgencias"

[1]:Criterios de inestabilidad hemodinámica (FA mal tolerada):
- Descenso sintomático de la TAS en 30 mmHg o por debajo de 85/50.
- Disfunción orgánica: angina grave, insuficiencia cardiaca grave, compromiso de la perfusión periférica, deterioro grave de la función renal con oligoanuria, disminución del nivel de conciencia o acidosis láctica.
- Otras situaciones que conlleven riesgo vital inmediato.

[2]: Lugar de manejo de la FA bien tolerada:
1) FA conocida
- consulta por otro motivo: **según motivo de consulta (planta/Cuidados intermedios/UCI)**
- sintomática o criterios de riesgo: **UCI**
2) FA de novo:
- Bien tolerada y consulta por otro motivo (hallazgo casual): **área de cuidados intermedios**
- Sintomática o con criterios de riesgo: **UCI**

SIEMPRE: Si se intenta CV: UCI

Criterios de riesgo:
1) Complicaciones de la FA : IC, angor, tromboembolia…
2) Falta de control de respuesta ventricular o síntomas a pesar del tratamiento
3) Presentación con inestabilidad hemodinámica
4) Conversión de FA a un flutter rápido.

[3] : Se considera cardiopatía estructural cualquier cardiopatía. EXCEPTO:
- Hipertrofia ventricular leve
- Prolapso valvular mitral con regurgitación leve.

- En ausencia de ecocardiograma, se puede estimar la ausencia de cardiopatía si todos los siguientes son normales:
  - Antecedentes personales
  - Exploración física
  - ECG
  - Rx tórax

(ante la anormalia de cualquiera de ellos, se manejará como si tuviera una cardiopatía estructural)

DOSIFICACIÓN FÁRMACOS PARA CARDIOVERSIÓN FARMACOLÓGICA

* Siempre añadir bloqueadores del nodo

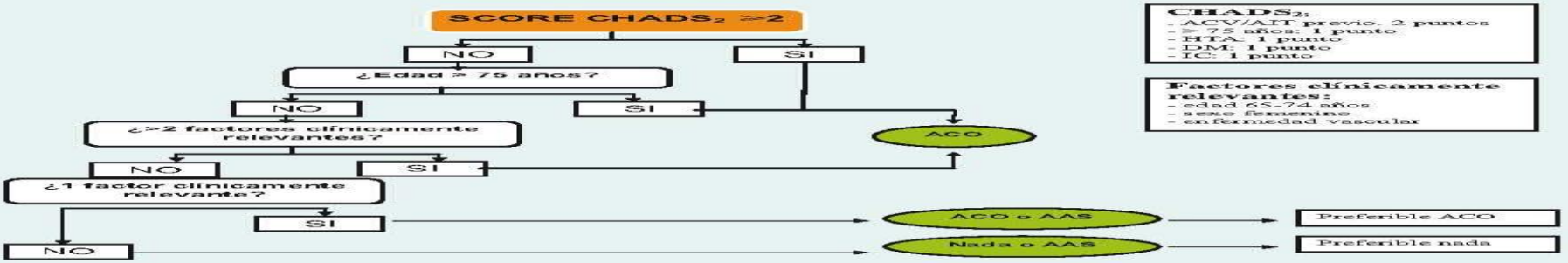
	Dosis de carga	Dosis mantenimiento VO
FLECAINIDA*	200 - 300 mg (oral) o 2 mg/Kg IV en 10-20 min	1 comp/12h
PROPAFENONA*	450 - 600 mg (oral) o 2 mg/kg IV en 10- 20 min	1 comp/8h
AMIODARONA	2 amp IV en 100 cc de suero en 30-60 min	2 amp en 250 a pasar en 8h + 1 comp/8-12h VO

DOSIFICACIÓN FÁRMACOS PARA CONTROL FRECUENCIA VENTRICULAR

1.- AGUDO (IV)	Dosis de carga (ejemplo para 80 kg)	Dosis mantenimiento
· Verapamilo (Manidon©)	0,075 - 0,15 mg/kg en 2 min(1'5 amp) Se puede repetir cada 5 - 10 min	De 40 mg/12h a 360/24h (liberac retardada) VO
· Atenolol (Tenormin©)	2'5 mg (1/2 ampolla) en 2 min. Se puede repetir/5 min (max: 10 mg)	De 25 a 100 mg /24h VO
· Digoxina	0,25 - 0'5 mg (1 - 2 ampollas)	0,25 mg(1 amp)/6h durante 24h. Despues 0,25/24h VO
· Metoprolol	2.5 - 5 mg en 2 min. Maximo 3 dosis	50 - 200 mg/24h VO

2.- CRÓNICO (VO)	Dosis de mantenimiento VO
· Verapamilo	120 - 360 mg/día
· Digoxina	0, 125 - 0.25 mg/día
· Atenolol	50 - 100 mg/ día
- Dronedarona	400 mg/12h

NO USAR
CALCIO- ANTAGONISTAS EN PRESENCIA- SOSPECHA DE DISFUNCIÓN VENTRICULAR



$CHADS_2$:
- ACV/AIT previo: 2 puntos
- ≥ 75 años: 1 punto
- HTA: 1 punto
- DM: 1 punto
- IC: 1 punto

Factores clínicamente relevantes:
- edad 65 - 74 años
- sexo femenino
- enfermedad vascular

· **Cuando se decida realizar anticoagulación oral se puede considerar el dabigatrán (Pradaxa©) como alternativa al tratamiento de dosis ajustada de antagonistas de la vitamina K en dosis según el siguiente Score de riesgo hemorrágico:**

HASBLED		
H	Hypertension	1 punto
A	Abnormal liver/renal function	1 punto cada una
S	Stroke	1 punto
B	Bleeding	1 punto
L	Labile INR	1 punto
E	Elderley (> 65 y)	1 punto
D	Drugs or alcohol	1 punto cada una

Score 0-2 → Dabigatran 150 mg/12h
Score ≥3 → Dabigatran 110 mg/12h

LUGAR DE TRATAMIENTO DE LA FA:

European Society for Emergency Medicine (EuSEM)

STROKE AND THROMBOSIS GROUP

ATRIAL FIBRILLATION CLINICAL PATHWAY IN THE EMERGENCY DEPARTMENT

BP...../..... HEART RATE.....TEMP ..... O2 SATS .....% RESP RATE ..... BM .....

Triage category

AF IS PRIMARY REASON FOR PRESENTATION YES c **NO** c

ONSET SYMPTOMS OF AF..../...../..... **TIME**.....

DURATION OF AF .....HOURS

SELF PRESENTATION ☐ **AMBULANCE** ☐ **AMBULANCE SHEET E/U NO**.....

BP...../..... HEART RATE.....TEMP ..... O_2 SATS .....% RESP RATE ..... BM .....

SIGNED ..... TIME .....:..... DATE.....

TREATMENT- ANALGESIA ☐ IV CANNULA ☐ CHEST X-RAY REQUESTED ☐
BLOODS - U&E, GLUCOSE, CHOLESTEROL, FBC, INR (IF ON WARFARIN), TFTs, TROPONIN-T ☐

ECHO- IF PLAN FOR RHYTHM CONTROL, SUSPECTED STRUCTURAL HEART DISEASE, OR FOR EMBOLIC RISK STRATIFICATION ☐

THANK YOU