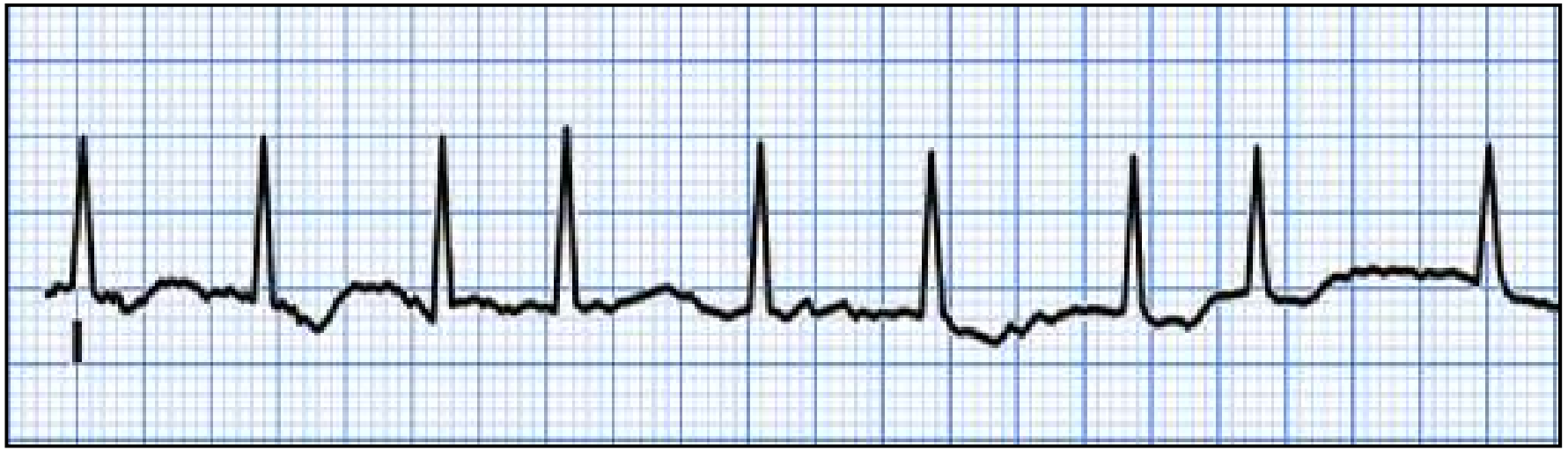
FIBRILACION AURICULAR EN URGENCIAS



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Epidemiología

- **La FA es la arritmia cardiaca mantenida más prevalente en la práctica diaria de los SUH** (3,6% urgencias generales y más del 10% de los ingresos)

Table 3 Cardiovascular morbidity and mortality associated with atrial fibrillation

Event	Association with AF
Death	Increased mortality, especially cardiovascular mortality due to sudden death, heart failure or stroke.
Stroke	20–30% of all strokes are due to AF. A growing number of patients with stroke are diagnosed with 'silent', paroxysmal AF.
Hospitalizations	10–40% of AF patients are hospitalized every year.
Quality of life	Quality of life is impaired in AF patients independent of other cardiovascular conditions.
Left ventricular dysfunction and heart failure	Left ventricular dysfunction is found in 20–30% of all AF patients. AF causes or aggravates LV dysfunction in many AF patients, while others have completely preserved LV function despite long-standing AF.
Cognitive decline and vascular dementia	Cognitive decline and vascular dementia can develop even in anticoagulated AF patients. Brain white matter lesions are more common in AF patients than in patients without AF.

Epidemiología

- En los SUH de nuestro país la FA afecta fundamentalmente a **ancianos** (media de edad, 75 años; el 57% de los pacientes son mayores de 75 años)
- Los **principales factores asociados** son la **hipertensión arterial** (58%), la existencia de **cardiopatía estructural** en el 47% (isquémica 37%; valvular 30%; hipertensiva 25% y dilatada 8%), **diabetes mellitus** en el 22% e **hipertiroidismo** en el 1,5% de los pacientes.

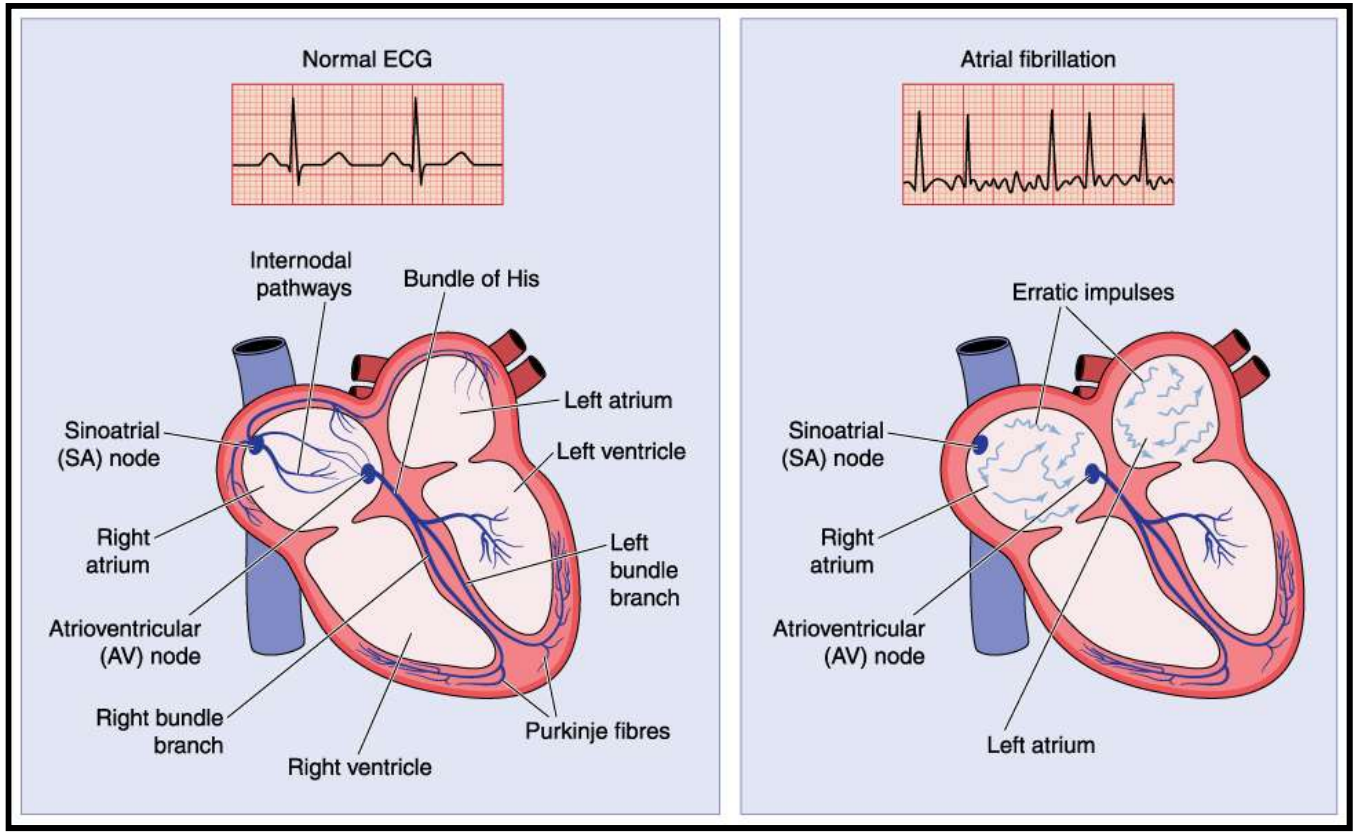
Table 8 Cardiovascular and other conditions independently associated with atrial fibrillation

Characteristic/comorbidity	Association with AF
Genetic predisposition (based on multiple common gene variants associated with AF)[64]	HR range 0.4–3.2
Older age[19] 50–59 years 60–69 years 70–79 years 80–89 years	HR: 1.00 (reference) 4.98 (95% CI 3.49–7.10) 7.35 (95% CI 5.28–10.2) 9.33 (95% CI 6.68–13.0)
Hypertension (treated) vs. none[19]	HR 1.32 (95% CI 1.08–1.60)
Heart failure vs. none[19]	HR 1.43 (95% CI 0.85–2.40)
Valvular heart disease vs. none[205]	RR 2.42 (95% CI 1.62–3.60)
Myocardial infarction vs. none[19]	HR 1.46 (95% CI 1.07–1.98)
Thyroid dysfunction[206,207] Hypothyroidism Subclinical hyperthyroidism Overt hyperthyroidism	(reference: euthyroid) HR 1.23 (95% CI 0.77–1.97) RR 1.31 (95% CI 1.19–1.44) RR 1.42 (95% CI 1.22–1.63)
Obesity[19,208] None (BMI <25 kg/m²) Overweight (BMI 25–30 kg/m²) Obese (BMI ≥31 kg/m²)	HR: 1.00 (reference) 1.13 (95% CI 0.87–1.46) 1.37 (95% CI 1.05–1.78)
Diabetes mellitus vs. none[19]	HR 1.25 (95% CI 0.98–1.60)
Chronic obstructive pulmonary disease[209] FEVI ≥80% FEVI 60–80% FEVI <60%	RR: 1.00 (reference) 1.28 (95% CI 0.79–2.06) 2.53 (95% CI 1.45–4.42)
Obstructive sleep apnoea vs. none[210]	HR 2.18 (95% CI 1.34–3.54)
Chronic kidney disease[211] None Stage 1 or 2 Stage 3 Stage 4 or 5	OR: 1.00 (reference) 2.67 (95% CI 2.04–3.48) 1.68 (95% CI 1.26–2.24) 3.52 (95% CI 1.73–7.15)
Smoking[212] Never Former Current	HR: 1.00 (reference) 1.32 (95% CI 1.10–1.57) 2.05 (95% CI 1.71–2.47)
Alcohol consumption[213] None 1– 6 drinks/week 7–14 drinks/week 15–21 drinks/week >21 drinks/week	RR: 1.00 (reference) 1.01 (95% CI 0.94–1.09) 1.07 (95% CI 0.98–1.17) 1.14 (95% CI 1.01–1.28) 1.39 (95% CI 1.22–1.58)
Habitual vigorous exercise[214] Non-exercisers <1 day/week 1–2 days/week 3–4 days/week 5–7 days/week	RR: 1.00 (reference) 0.90 (95% CI 0.68–1.20) 1.09 (95% CI 0.95–1.26) 1.04 (95% CI 0.91–1.19) 1.20 (95% CI 1.02–1.41)

Fibrilación auricular: diagnóstico

- La FA se define como una arritmia cardiaca con las siguientes **características**:

  1. El ECG de superficie muestra **intervalos R-R «absolutamente» irregulares** (la FA se conoce como la arritmia absoluta)
  2. **No hay ondas P definidas** en el ECG de superficie



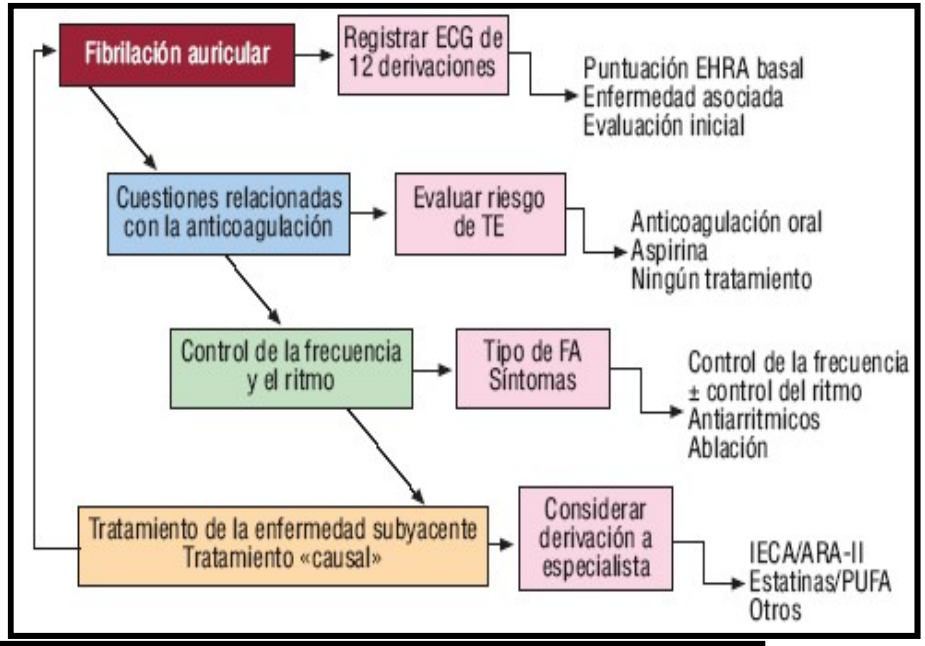
Manejo general

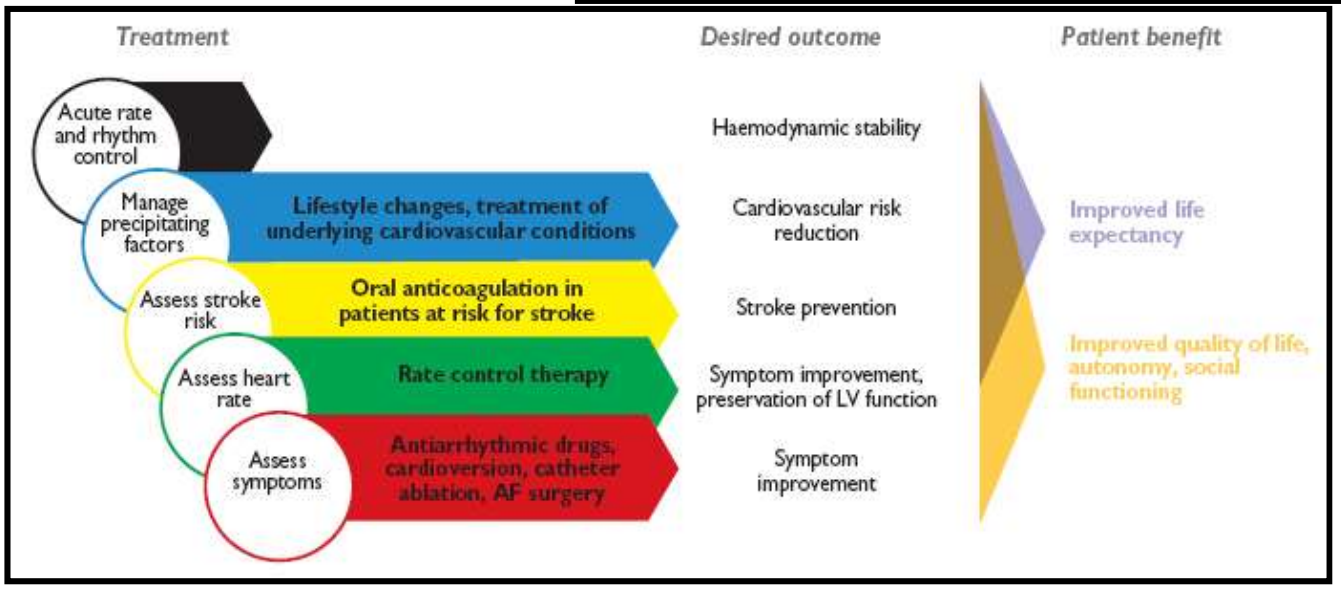
Con los objetivos

- Aliviar los síntomas
- Prevenir las complicaciones

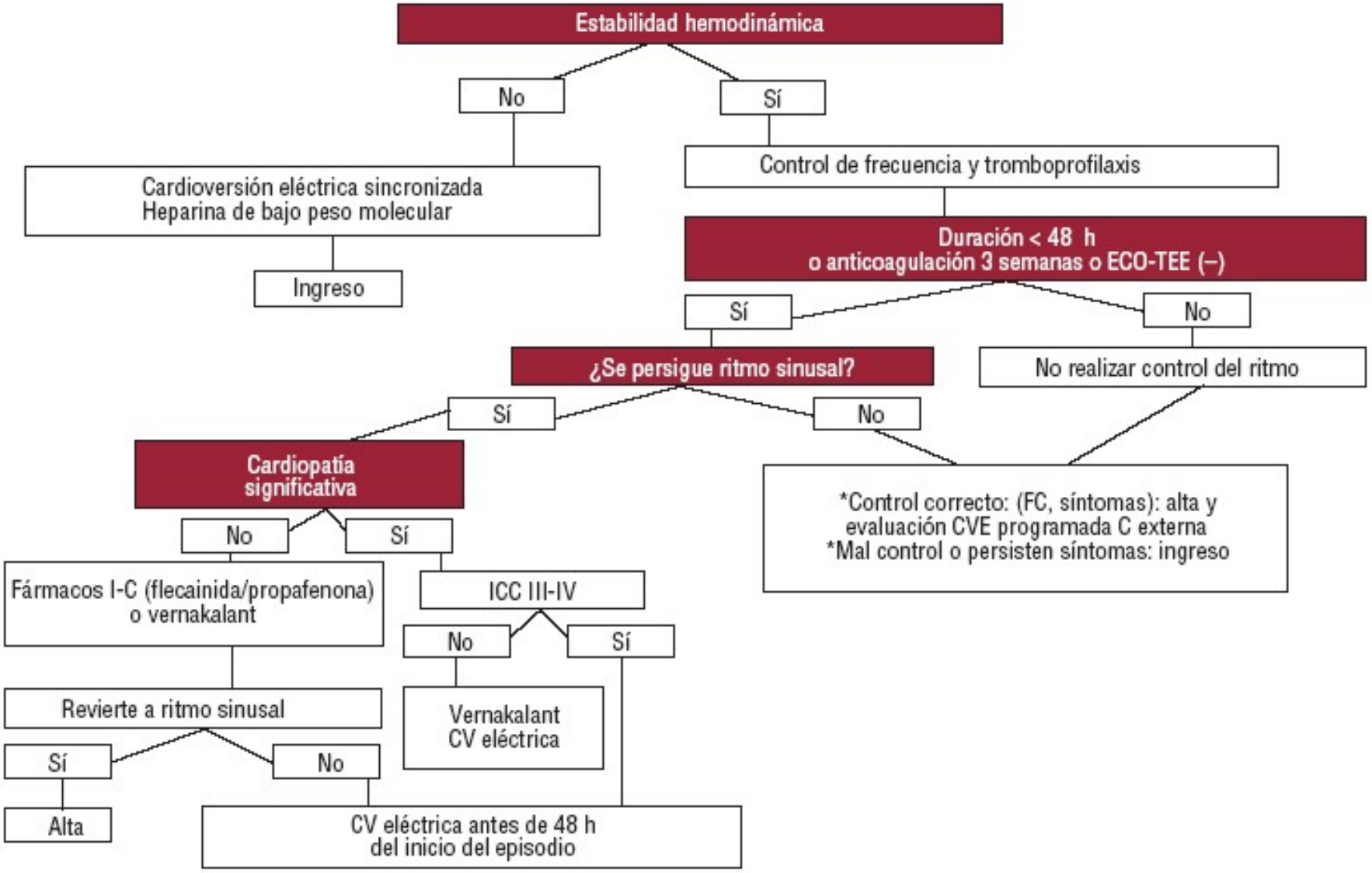
Mediante

- Control de la FC
- Profilaxis tromboembólica
- Restauración del ritmo sinusal





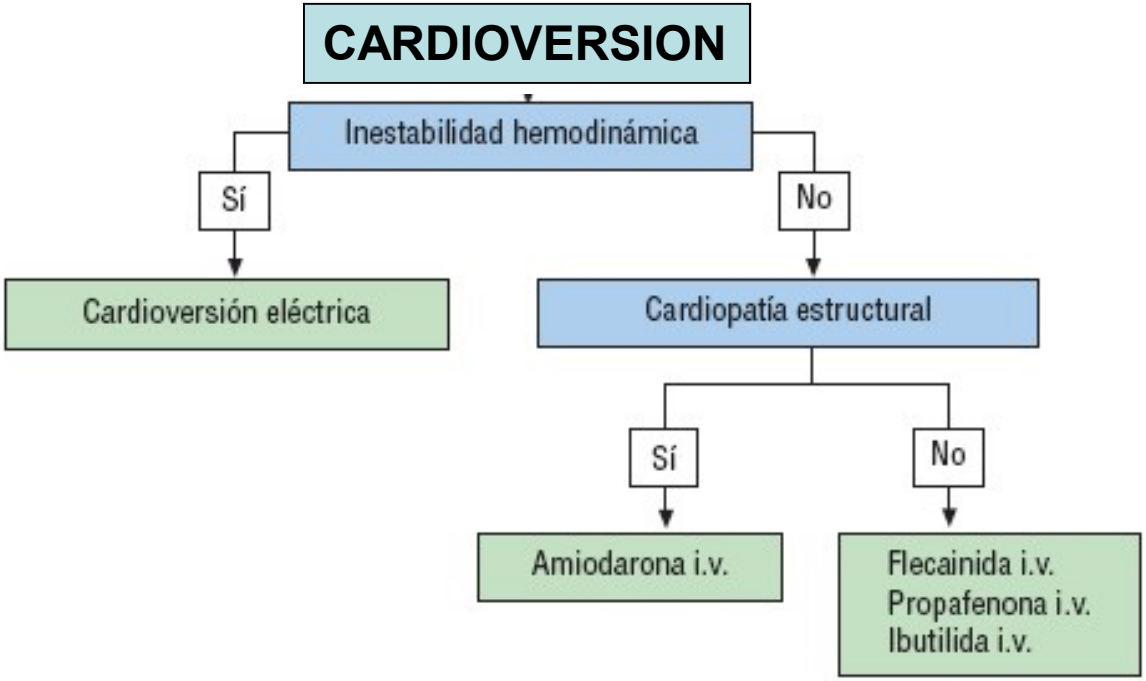
Manejo FA en urgencias



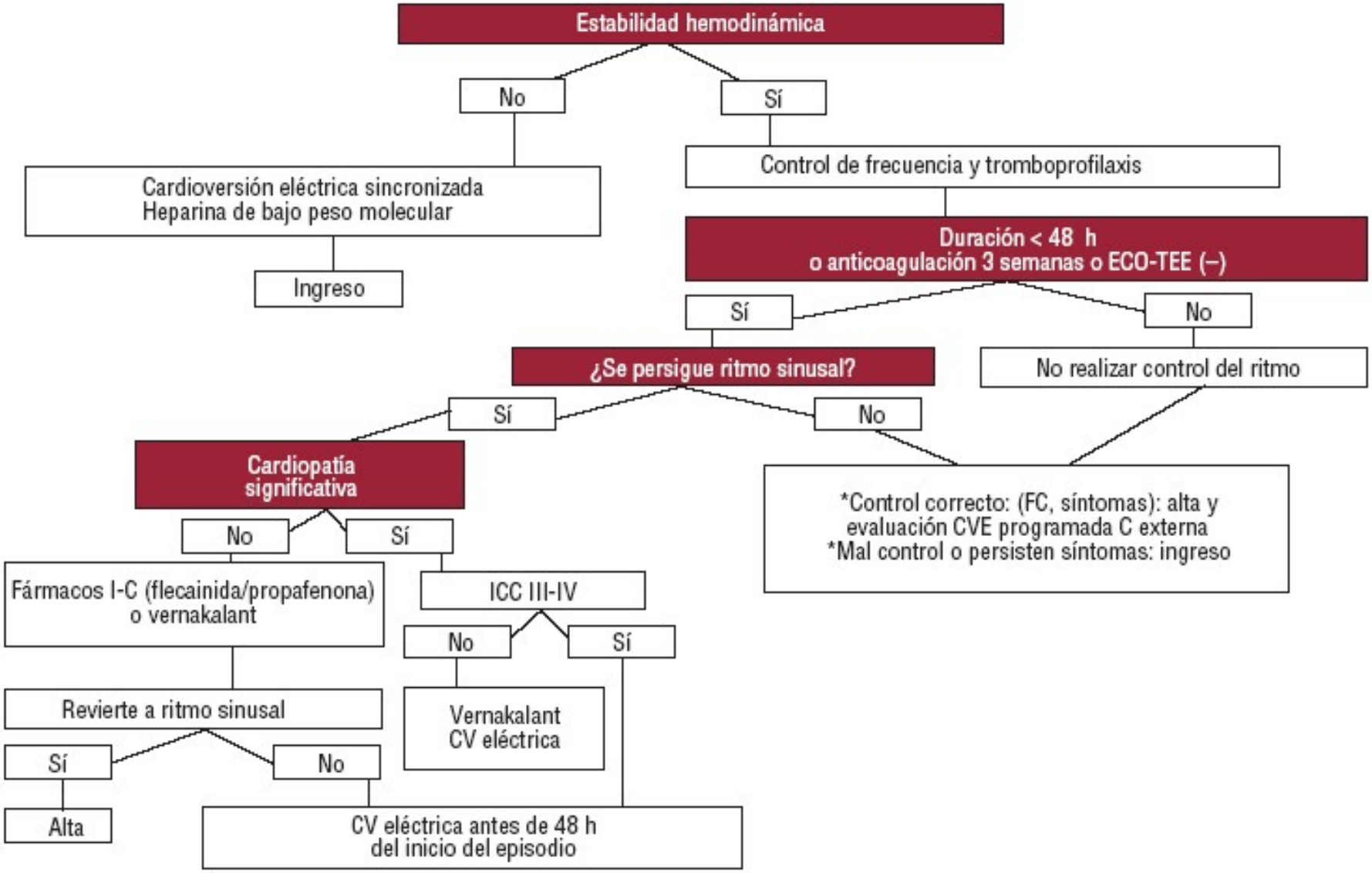
1º-¿Inestabilidad hemodinámica?

Se cumple uno de los siguientes:

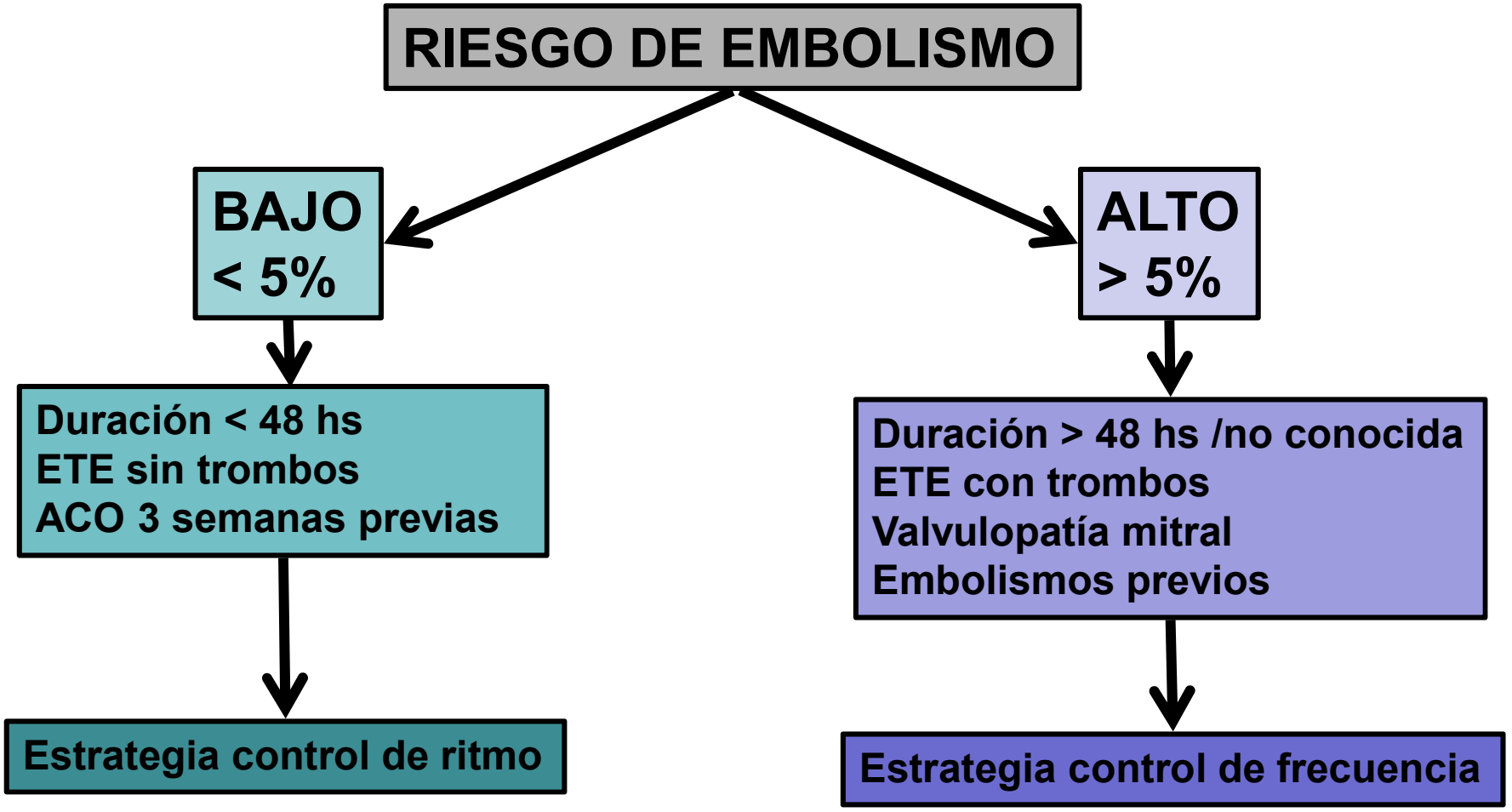
- Caída sintomática de la tensión arterial (TA) de 30 mmHg o por debajo de 90/50 mmHg
- Disfunción orgánica: angor severo, insuficiencia cardíaca grave, compromiso de la perfusión periférica, deterioro de la función renal con oligoanuria, disminución del nivel de conciencia o acidosis láctica
- Otras situaciones con riesgo vital inmediato



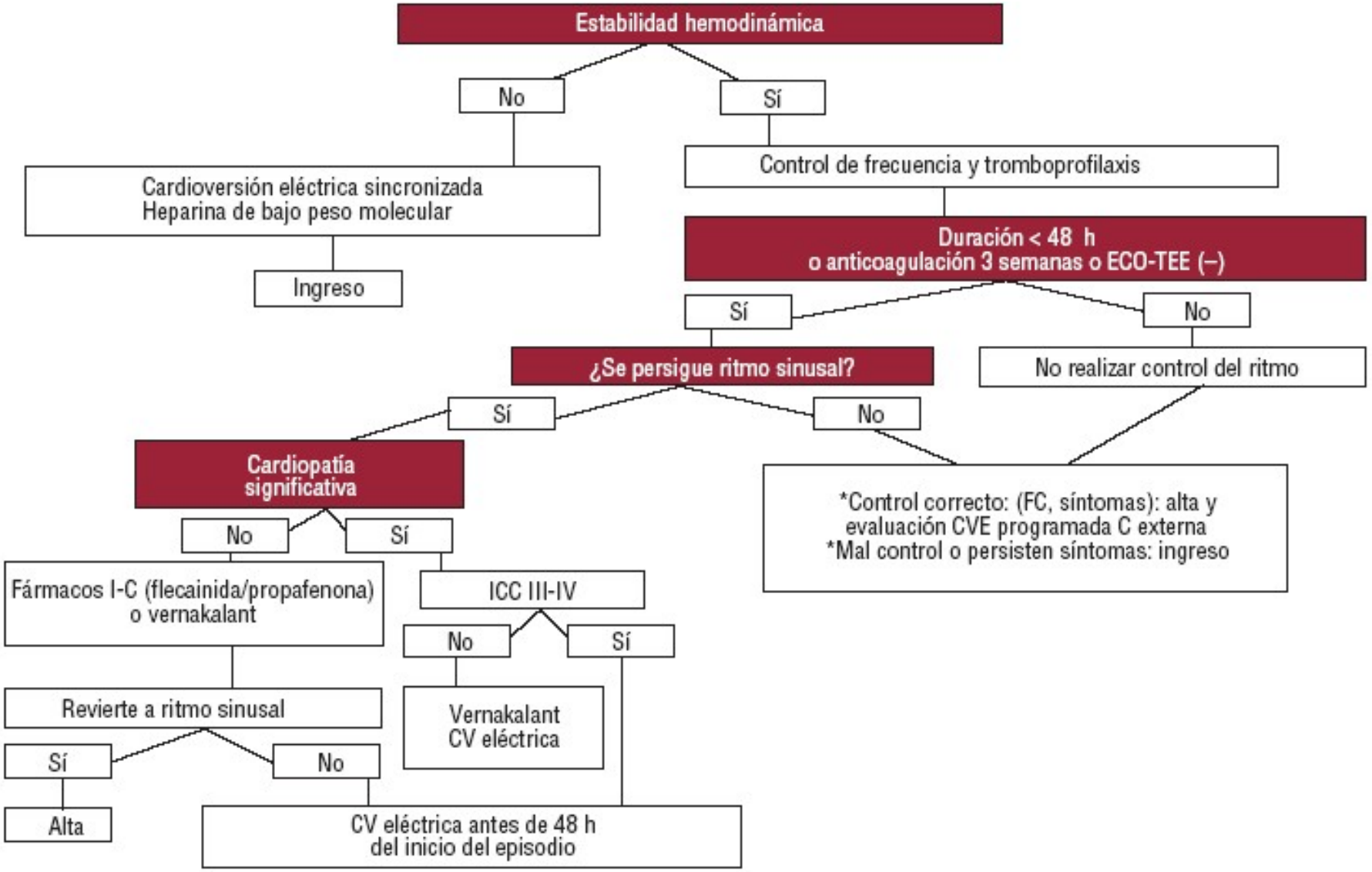
Manejo FA en urgencias



2º-¿Existe riesgo de embolismo?



Manejo FA en urgencias

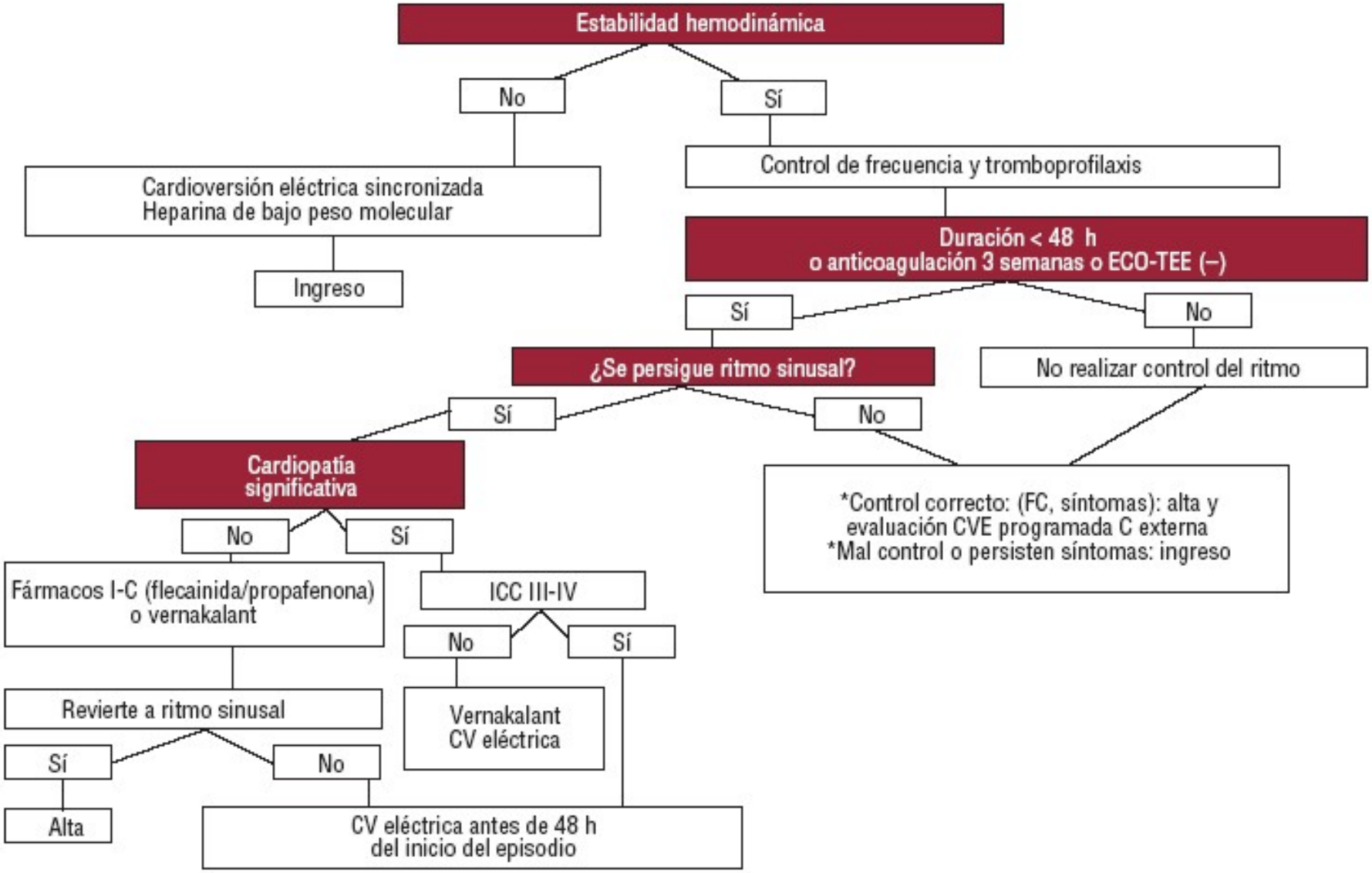


3º-¿Queremos el ritmo sinusal?

Tabla 3
Factores que hay que considerar ante la decisión de intentar la restauración del ritmo sinusal en la fibrilación auricular

1. Condicionantes a favor de perseguir la restauración del ritmo sinusal
• Primer episodio de fibrilación auricular
• Historia previa de fibrilación auricular paroxística
• Fibrilación auricular secundaria a una enfermedad transitoria o corregible (hipertiroidismo, tras cirugía, fármacos, sustancias de abuso, síndrome febril, etc.)
• Fibrilación auricular que produce síntomas graves/limitantes (angina, insuficiencia cardiaca, síncope, mala tolerancia subjetiva)
• Elección del paciente
2. Factores en contra de perseguir el ritmo sinusal
• *Alta probabilidad de recurrencia precoz o tardía* – Duración de la arritmia > 2 años – Antecedentes de múltiples cardioversiones eléctricas previas o de fracaso de los fármacos antiarrítmicos disponibles para mantener el ritmo sinusal (en pacientes no elegibles para ablación con catéter) – Recaída precoz de la arritmia (< 1 mes) tras la cardioversión – Valvulopatía mitral – Aurícula izquierda muy dilatada (> 55 mm)
• Mala tolerancia o elevado riesgo de proarritmia con los fármacos disponibles para el mantenimiento del ritmo sinusal
• Rechazo del paciente

Manejo FA en urgencias



4º-¿Existe cardiopatía estructural?

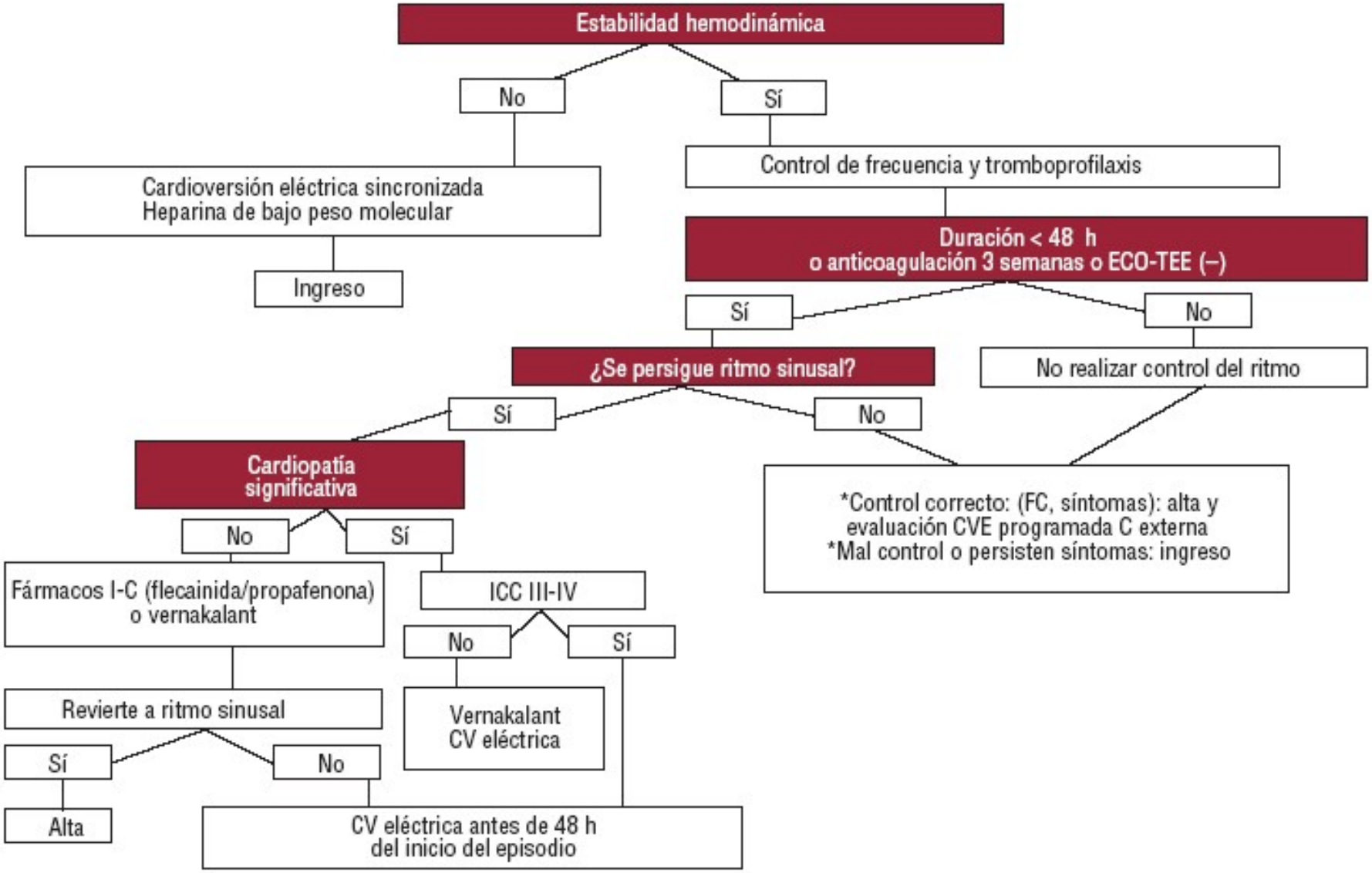
Se cumple uno de los siguientes:

Ecocardiograma disponible: toda cardiopatía estructural salvo la hipertensiva con hipertrofia ventricular ≤ 14 mm y el prolapso mitral sin insuficiencia valvular.

Ecocardiograma no disponible: uno de los siguientes parámetros es anormal desde el punto de vista cardiológico:

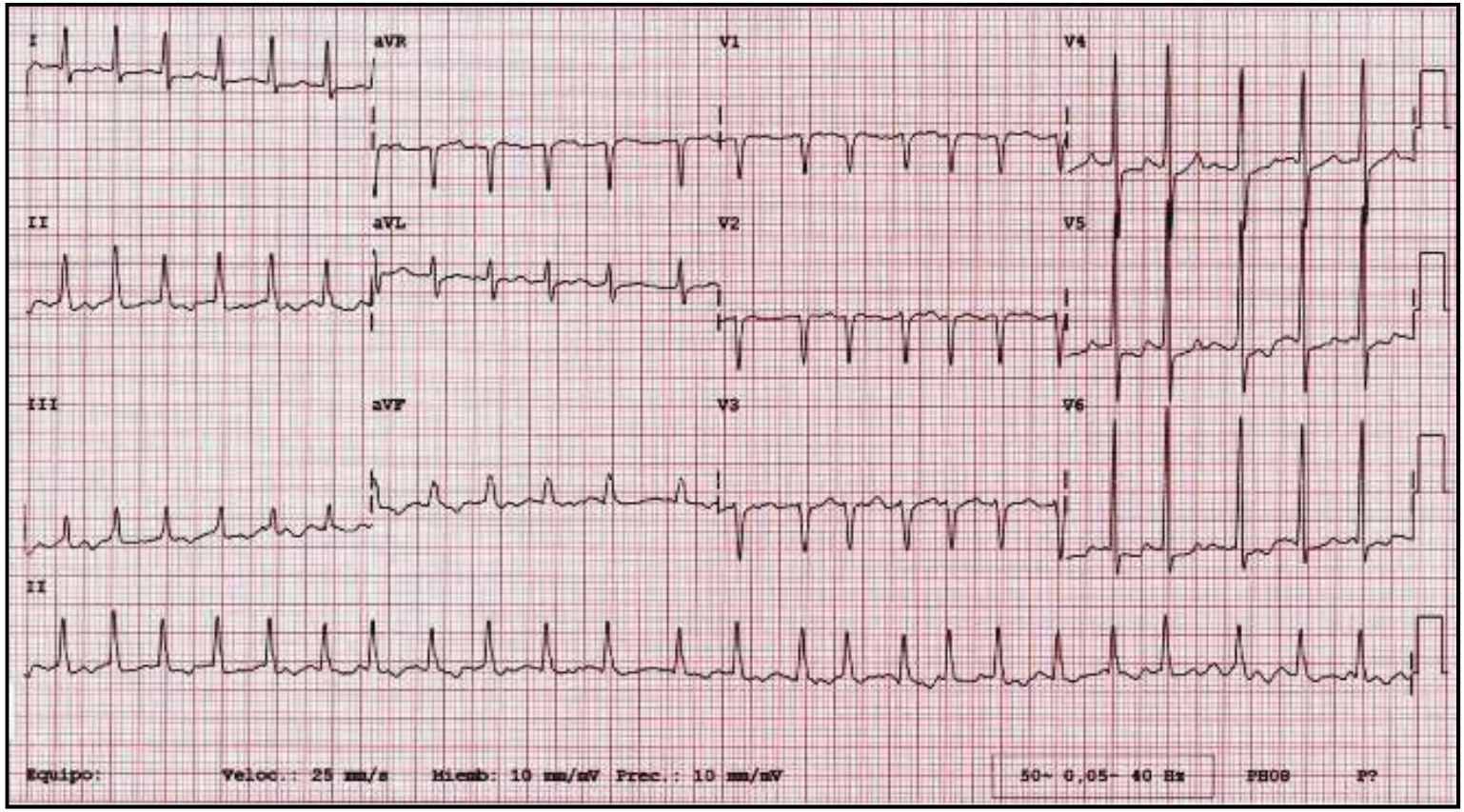
- Anamnesis detallada
- Exploración física
- ECG (QRS y alteraciones específicas ST-T)
- Rx de tórax

Manejo FA en urgencias

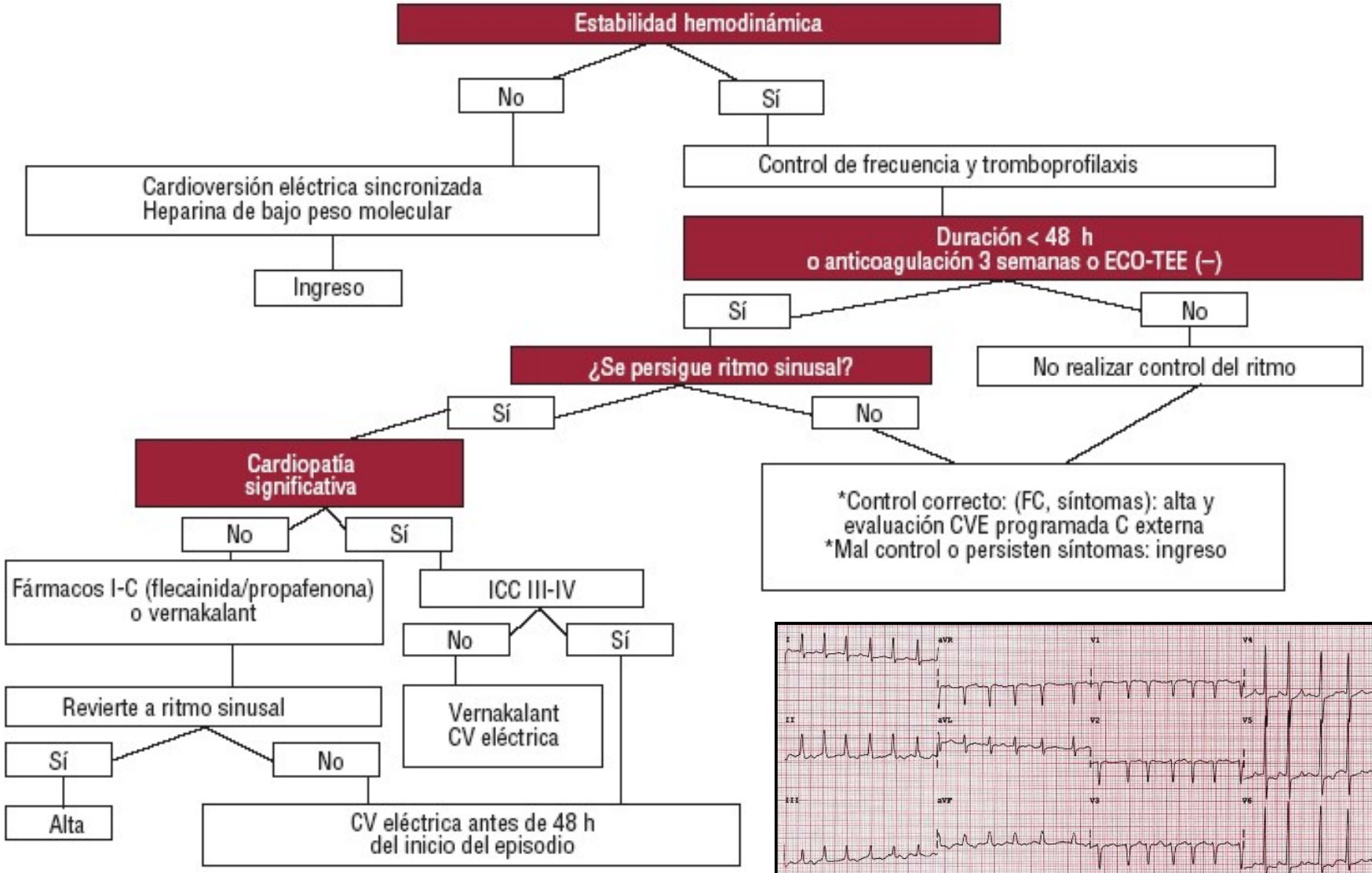


Caso 1

- Mujer de 79ª
- DM, HTA, cardiopatía HTA
- Asintomática, EKG en control rutinario

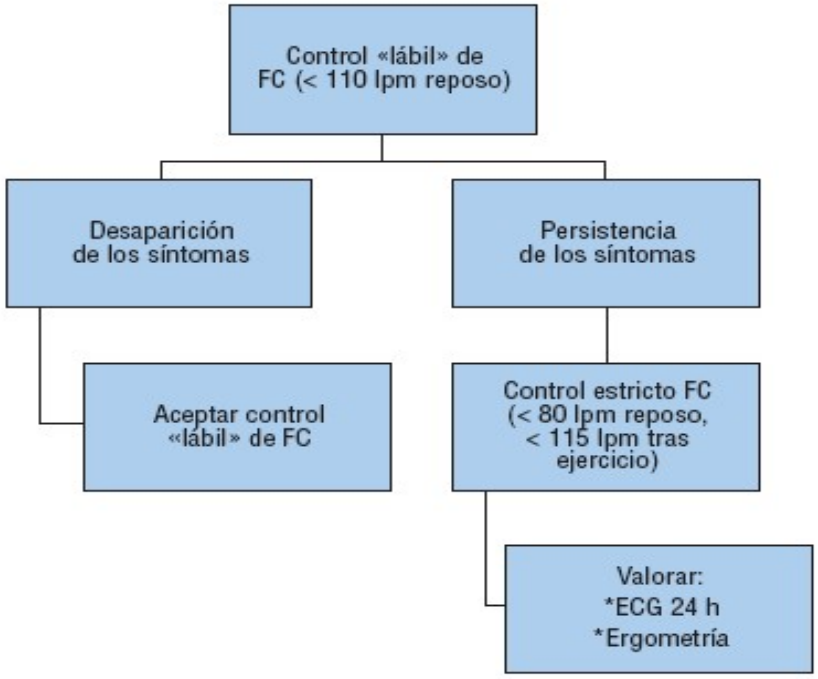


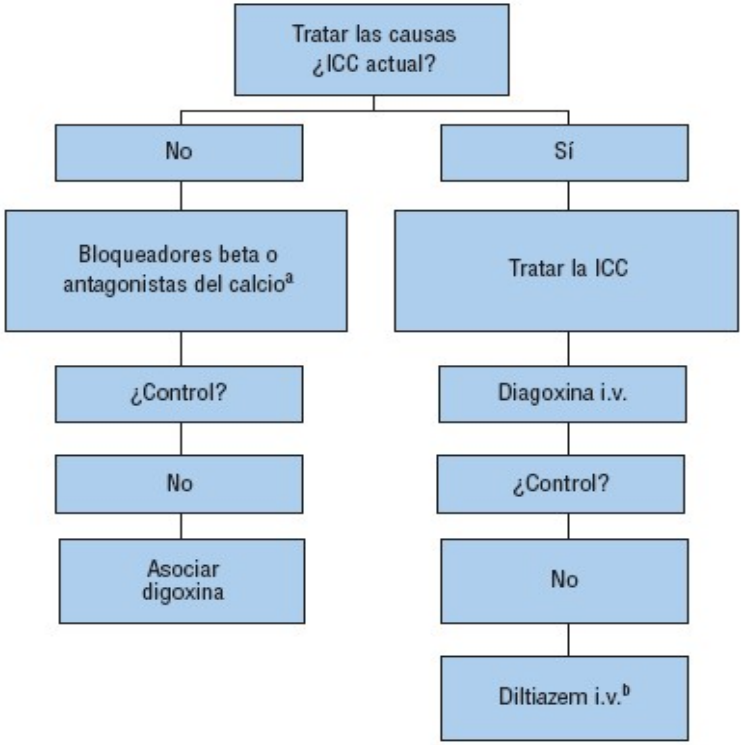
Caso 1


Estabilidad hemodinámica
No
Sí
Cardioversión eléctrica sincronizada
Heparina de bajo peso molecular
Ingreso
Control de frecuencia y tromboprofilaxis
Duración < 48 h
o anticoagulación 3 semanas o ECO-TEE (–)
Sí
No
¿Se persigue ritmo sinusal?
No realizar control del ritmo
Sí
No
Cardiopatía
significativa
*Control correcto: (FC, síntomas): alta y
evaluación CVE programada C externa
*Mal control o persisten síntomas: ingreso
No
Sí
Fármacos I-C (flecainida/propafenona)
o vernakalant
ICC III-IV
No
Sí
Revierte a ritmo sinusal
Vernakalant
CV eléctrica
Sí
No
Alta
CV eléctrica antes de 48 h
del inicio del episodio

Caso 1: **control de frecuencia**

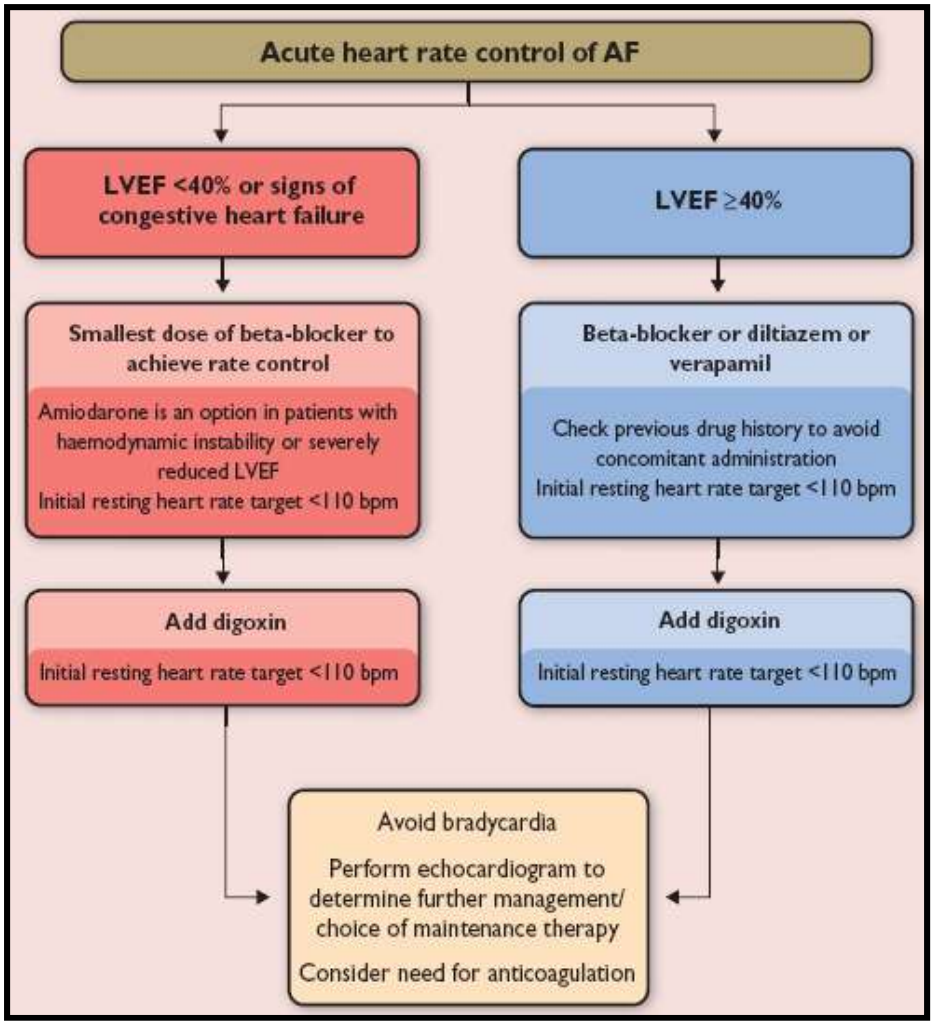
- Con el **control de frecuencia** se busca mantener una frecuencia cardiaca que proteja al paciente del deterioro de la función ventricular izquierda (taquimiocardiopatía)
- El **control de frecuencia** es la **estrategia de elección** en pacientes ancianos, con elevada comorbilidad, con bajas probabilidades de mantener el ritmo sinusal a largo plazo o con riesgo de proarritmia con los FAA





Control de frecuencia

- El **control de frecuencia es siempre un objetivo terapéutico en la FA** para aliviar los síntomas, impedir el deterioro hemodinámico y evitar la aparición de taquimiocardiopatía e insuficiencia cardiaca
- Además de controlar los desencadenantes (fiebre, hipoxemia, etc.), **el principal factor de decisión es que haya insuficiencia cardiaca** aguda en el momento de la vista al SUH, limita el uso de fármacos con efecto inotrópico negativo

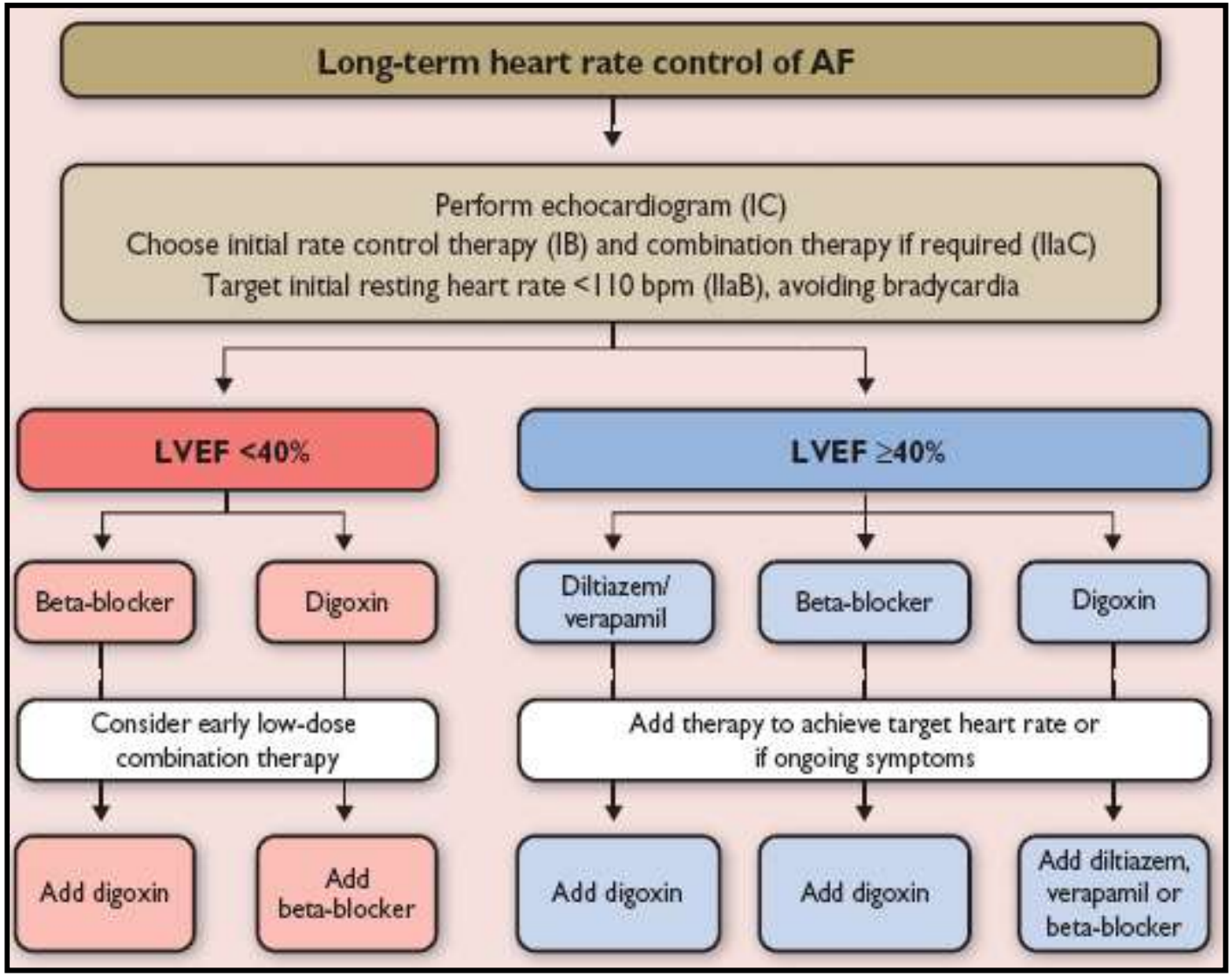


Control de frecuencia: fármacos

Table 15 Rate control therapy in atrial fibrillation

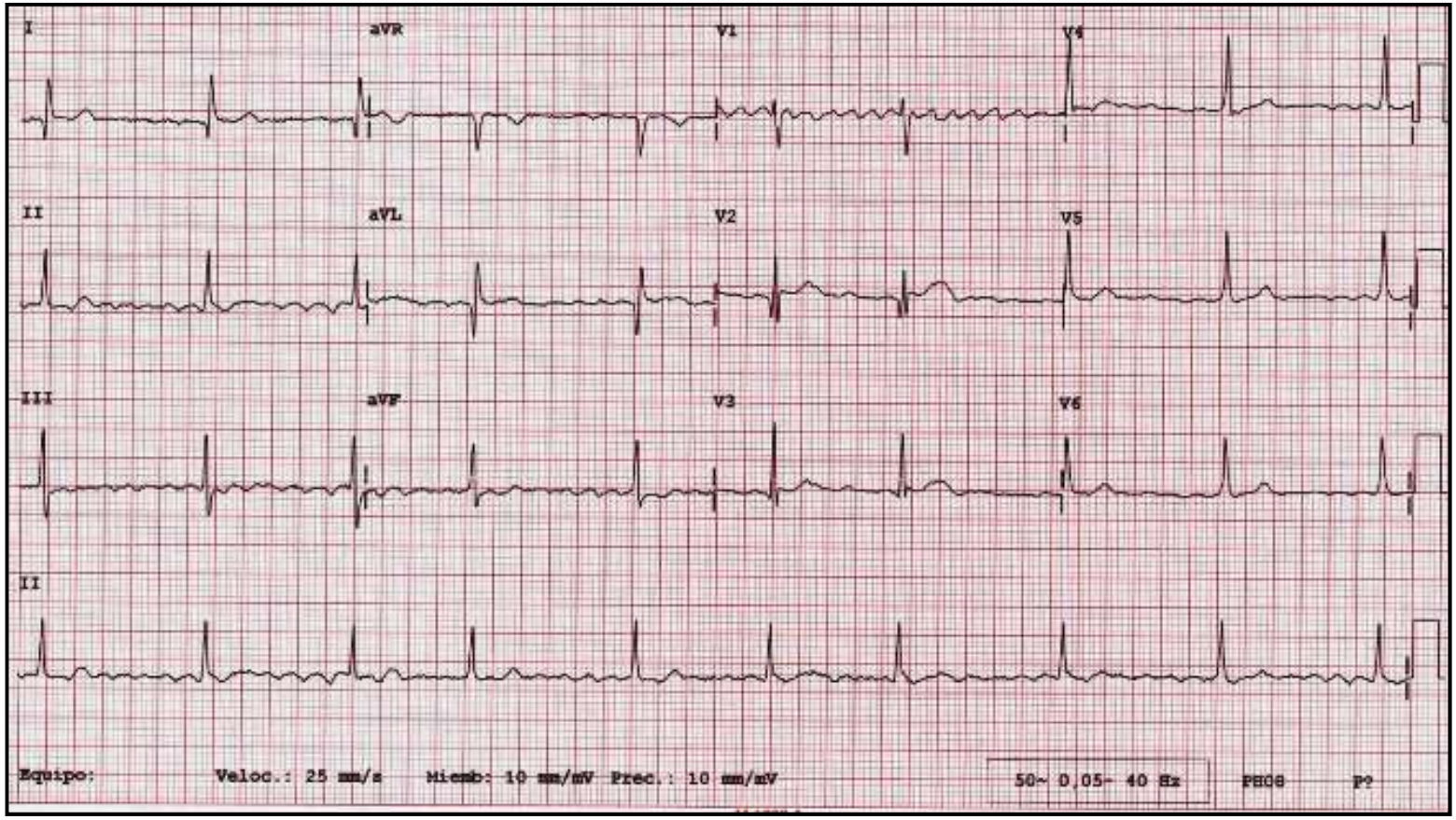
Therapy	Acute intravenous rate control	Long-term oral rate control	Side effect profile	Comments
Beta-blockers[a]				
Bisoprolol	Not available	1.25–20 mg once daily or split.	Most common reported adverse symptoms are lethargy, headache, peripheral oedema, upper respiratory tract symptoms, gastrointestinal upset and dizziness. Adverse effects include bradycardia, atrioventricular block and hypotension.	Bronchospasm is rare – in cases of asthma, recommend beta-1 selective agents (avoid carvedilol). Contra-indicated in acute cardiac failure and a history of severe bronchospasm.
Carvedilol	Not available	3.125–50 mg twice daily.		
Metoprolol	2.5–10 mg intravenous bolus (repeated as required).	100–200 mg total daily dose (according to preparation).		
Nebivolol	Not available	2.5–10 mg once daily or split.		
Esmolol	0.5 mg intravenous bolus over 1 min; then 0.05–0.25 mcg/kg/min.			
Calcium-channel blockers				
Diltiazem	15–25 mg intravenous bolus (repeated as required).	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).	Use with caution in combination with beta-blockers. Reduce dose with hepatic impairment and start with smaller dose in renal impairment. Contra-indicated in LV failure with pulmonary congestion or LVEF <40%.
Verapamil	2.5–10 mg intravenous bolus (repeated as required).	40–120 mg 3 times daily (120–480 mg once daily modified release).		
Cardiac glycosides				
Digoxin	0.5 mg intravenous bolus (0.75–1.5 mg over 24 hours in divided doses).	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.	High plasma levels associated with increased risk of death. Check renal function before starting and adapt dose in patients with CKD. Contra-indicated in patients with accessory pathways, ventricular tachycardia and hypertrophic cardiomyopathy with outflow tract obstruction.
Digitoxin	0.4–0.6 mg intravenous bolus.	0.05–0.3 mg daily dose.		
Specific indications				
Amiodarone	300 mg intravenously diluted in 250 mL 5% dextrose over 30–60 minutes (preferably via central venous cannula).[b]	200 mg daily	Hypotension, bradycardia, nausea, QT prolongation, pulmonary toxicity, skin discolouration, thyroid dysfunction, corneal deposits and cutaneous reaction with extravasation.	Suggested as adjunctive therapy in patients where heart rate control cannot be achieved using combination therapy.

Control de FC a largo plazo

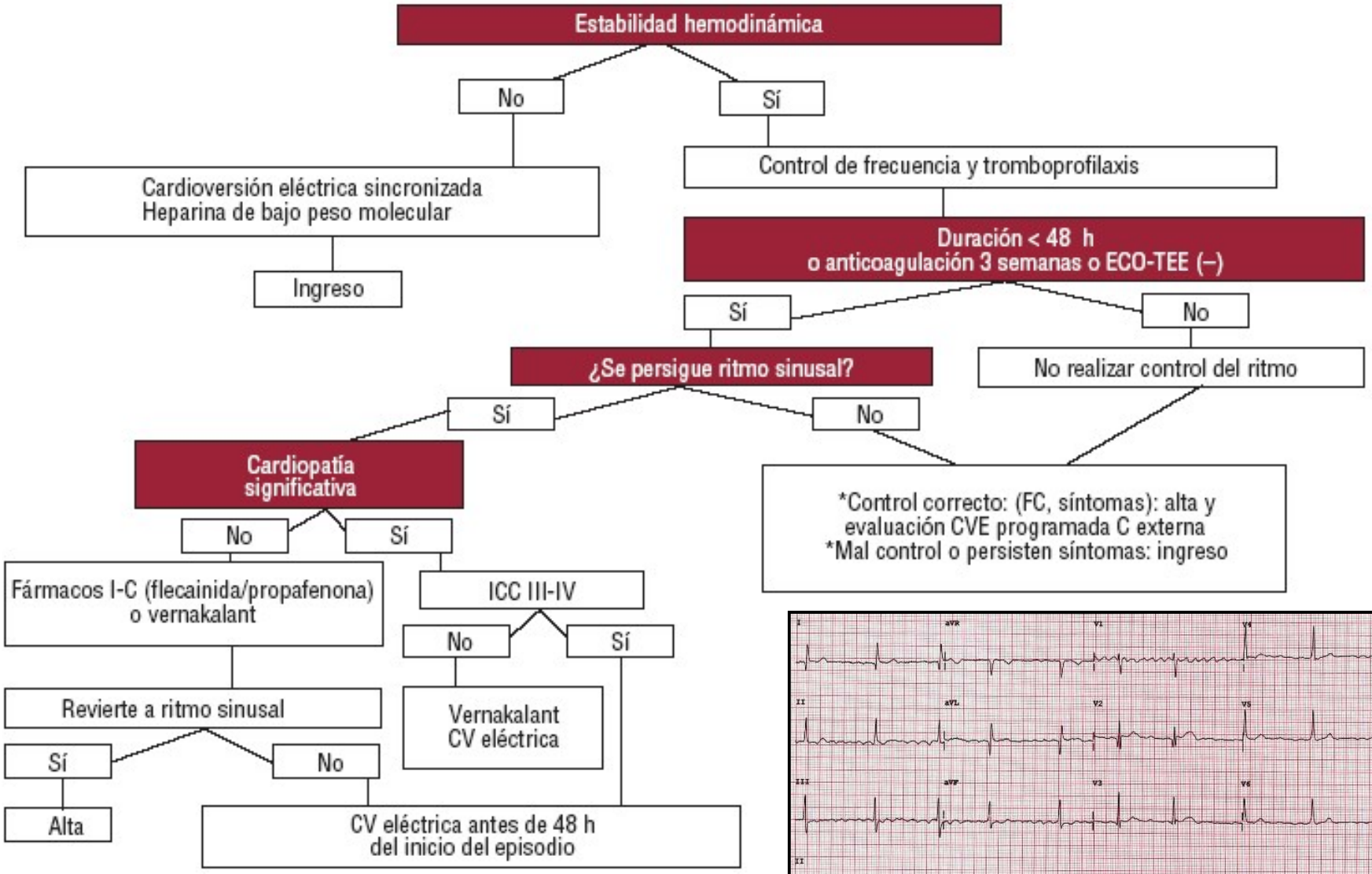


Caso 2

- Varón 30 a
- Sin AP de interés; fumador; bebedor fin de semana
- Palpitaciones desde hace 6 hs, con ligera opresión torácica



Caso 2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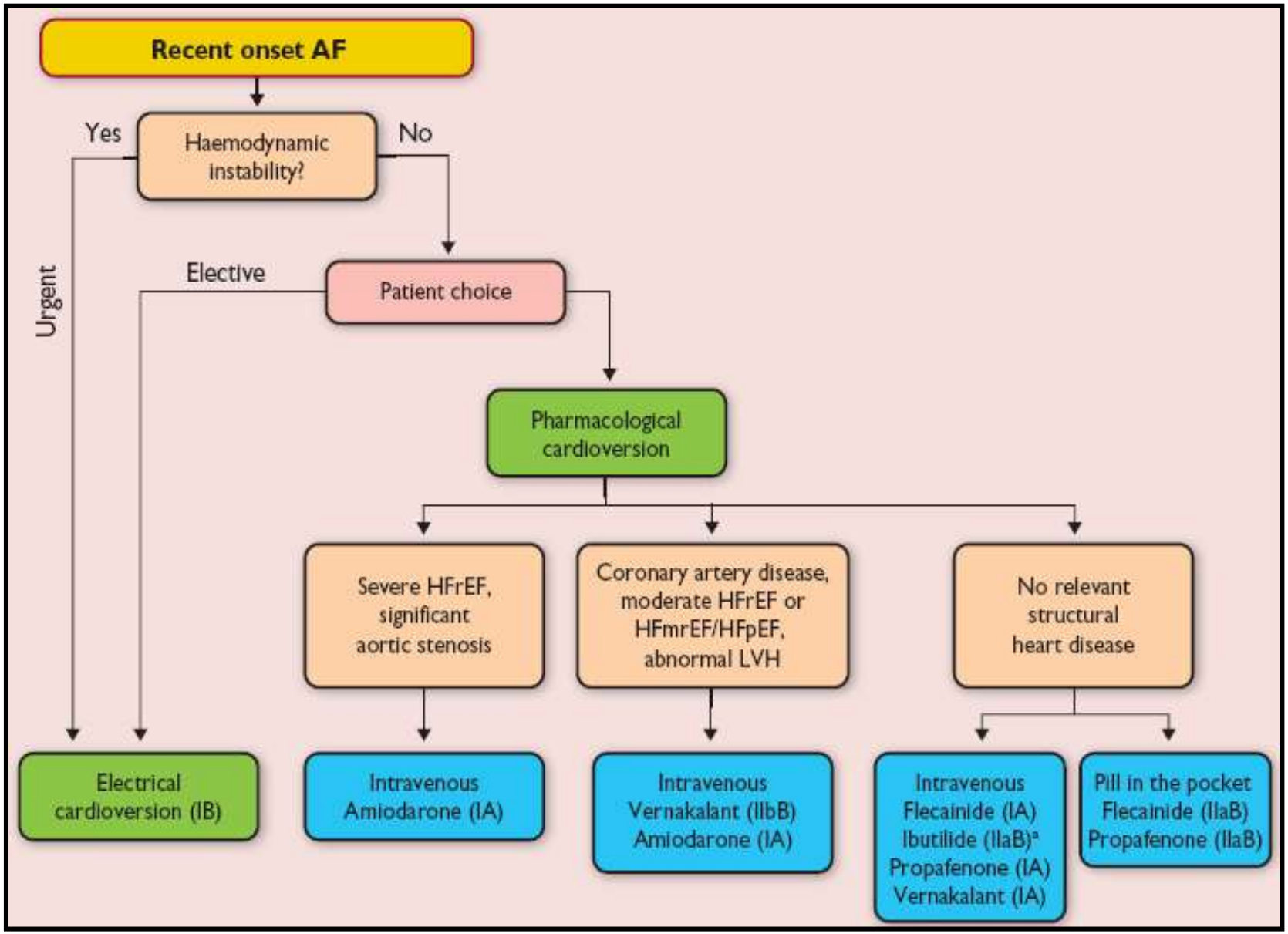
ICC III-IV
No
Sí
Revierte a ritmo sinusal
Vernakalant
CV eléctrica
Sí
No
Alta
CV eléctrica antes de 48 h
del inicio del episodio

Caso 2: **control de ritmo**



Caso 2: **control de ritmo**

Recommendations for rhythm control therapy

Recommendations	Class[a]	Level[b]	Ref[c]
General recommendations			
Rhythm control therapy is indicated for symptom improvement in patients with AF.	I	B	120, 586, 601
Management of cardiovascular risk factors and avoidance of AF triggers should be pursued in patients on rhythm control therapy to facilitate maintenance of sinus rhythm.	IIa	B	203, 204, 296, 312
With the exception of AF associated with haemodynamic instability, the choice between electrical and pharmacological cardioversion should be guided by patient and physician preferences.	IIa	C	
Cardioversion of AF			
Electrical cardioversion of AF is recommended in patients with acute haemodynamic instability to restore cardiac output.	I	B	612, 702-704
Cardioversion of AF (either electrical or pharmacological) is recommended in symptomatic patients with persistent or long-standing persistent AF as part of rhythm control therapy.	I	B	584, 601, 627, 628, 648, 705
Pre-treatment with amiodarone, flecainide, ibutilide, or propafenone should be considered to enhance success of electrical cardioversion and prevent recurrent AF.	IIa	B	248, 584, 633
In patients with no history of ischaemic or structural heart disease, flecainide, propafenone, or vernakalant are recommended for pharmacological cardioversion of new-onset AF.	I	A	602–605, 614, 618, 622, 706, 707
In patients with no history of ischaemic or structural heart disease, ibutilide should be considered for pharmacological conversion of AF.	IIa	B	
In selected patients with recent-onset AF and no significant structural or ischaemic heart disease, a single oral dose of flecainide or propafenone (the 'pill in the pocket' approach) should be considered for patient-led cardioversion, following safety assessment.	IIa	B	620, 621
In patients with ischaemic and/or structural heart disease, amiodarone is recommended for cardioversion of AF.	I	A	597–601
Vernakalant may be considered as an alternative to amiodarone for pharmacological conversion of AF in patients without hypotension, severe heart failure or severe structural heart disease (especially aortic stenosis).	IIb	B	602–605, 616, 618

Control de ritmo: fármacos

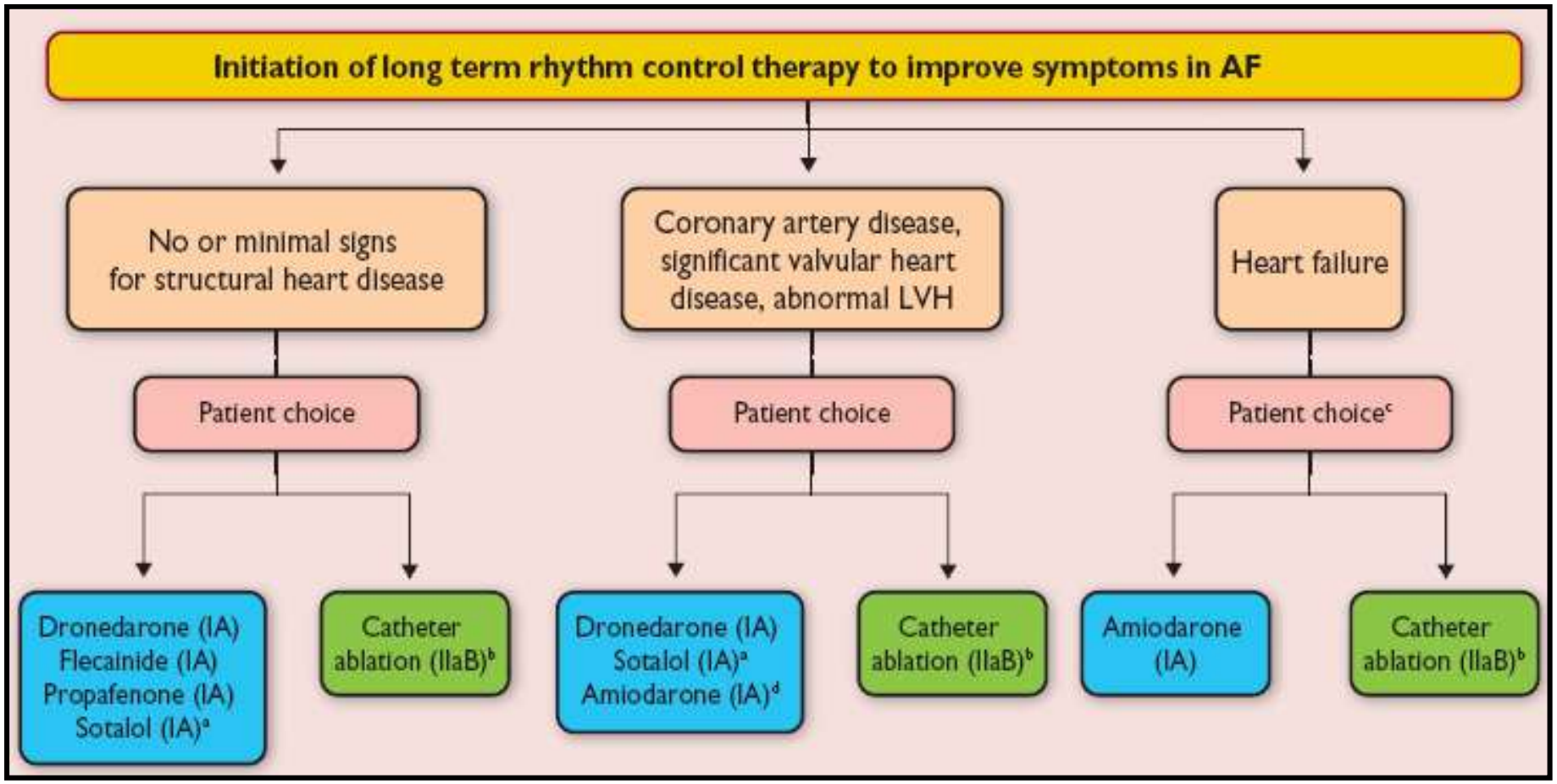
Table 16 Antiarrhythmic drugs for pharmacological cardioversion

Drug	Route	1st dose	Follow-up dose	Risks	Reference
Flecainide	Oral IV	200–300 mg 1.5–2 mg/kg over 10 min	N/A	Hypotension, atrial flutter with 1:1 conduction, QT prolongation. Avoid in patients with IHD and/or significant structural heart disease.	595, 598
Amiodarone	IV[a]	5–7 mg/kg over 1–2 hours	50 mg/hour to a maximum of 1.0 g over 24 hours	Phlebitis, hypotension, bradycardia/AV block. Will slow ventricular rate. Delayed conversion to sinus rhythm (8–12 hours).	596–601
Propafenone	IV Oral	1.5–2 mg/kg over 10 min 450–600 mg		Hypotension, atrial flutter with 1:1 conduction, QRS prolongation (mild). Avoid in patients with IHD and/or significant structural heart disease.	622, 625
Ibutilide[b]	IV	1 mg over 10 min	1 mg over 10 min after waiting for 10 min	QT prolongation, polymorphic ventricular tachycardia/torsades de pointes (3–4% of patients). Will slow ventricular rate. Avoid in patients with QT prolongation, hypokalemia, severe LVH or low ejection fraction.	614, 615
Vernakalant	IV	3 mg/kg over 10 min	2 mg/kg over 10 min after waiting for 15 min	Hypotension, non-sustained ventricular arrhythmias, QT and QRS prolongation. Avoid in patients with SBP <100 mmHg, recent (<30 days) ACS, NYHA Class III and IV heart failure, QT interval prolongation (uncorrected QT >440 ms) and severe aortic stenosis.	602–605, 618

Control de ritmo: prevención ACV

Stroke prevention in patients designated for cardioversion of AF			
Anticoagulation with heparin or a NOAC should be initiated as soon as possible before every cardioversion of AF or atrial flutter.	IIa	B	708, 709
For cardioversion of AF/atrial flutter, effective anticoagulation is recommended for a minimum of 3 weeks before cardioversion.	I	B	648, 708
Transoesophageal echocardiography (TOE) is recommended to exclude cardiac thrombus as an alternative to preprocedural anticoagulation when early cardioversion is planned.	I	B	648, 708
Early cardioversion can be performed without TOE in patients with a definite duration of AF <48 hours.	IIa	B	648
In patients at risk for stroke, anticoagulant therapy should be continued long-term after cardioversion according to the long-term anticoagulation recommendations, irrespective of the method of cardioversion or the apparent maintenance of sinus rhythm. In patients without stroke risk factors, anticoagulation is recommended for 4 weeks after cardioversion.	I	B	353, 710
In patients where thrombus is identified on TOE, effective anticoagulation is recommended for at least 3 weeks.	I	C	
A repeat TOE to ensure thrombus resolution should be considered before cardioversion.	IIa	C	

Mantenimiento del RS



Mantenimiento del RS: fármacos

Table 17 Oral antiarrhythmic drugs used for maintaining sinus rhythm after cardioversion

Drug	Dose	Main contra-indications and precautions	Warning signs warranting discontinuation	AV nodal slowing	Suggested ECG monitoring during initiation
Amiodarone	600 mg in divided doses for 4 weeks, 400 mg for 4 weeks, then 200 mg once daily	Caution when using concomitant therapy with QT-prolonging drugs and in patients with SAN or AV node and conduction disease. The dose of VKAs and of digitalis should be reduced. Increased risk of myopathy with statins. Caution in patients with pre-existing liver disease.	QT prolongation >500 ms	10–12 bpm in AF	Baseline, 1 week, 4 weeks
Dronedarone	400 mg twice daily	Contra-indicated in NYHA Class III or IV or unstable heart failure, during concomitant therapy with QT-prolonging drugs, or powerful CYP3A4 inhibitors (e.g. verapamil, diltiazem, azole antifungal agents), and when CrCl <30 mg/mL. The dose of digitalis, beta-blockers, and of some statins should be reduced. Elevations in serum creatinine of 0.1–0.2 mg/dL are common and do not reflect a decline in renal function. Caution in patients with pre-existing liver disease.	QT prolongation >500 ms	10–12 bpm in AF	Baseline, 1 week.
Flecainide Flecainide slow release	100–150 mg twice daily 200 mg once daily	Contra-indicated if CrCl <50 mg/mL, liver disease, IHD or reduced LV ejection fraction. Caution in the presence of SAN or AV node or conduction disease. CYP2D6 inhibitors (e.g. fluoxetine or tricyclic antidepressants) increase plasma concentration.	QRS duration increases >25% above baseline	None	Baseline, day 1, day 2–3
Propafenone Propafenone SR	150–300 mg three times daily 225–425 mg twice daily	Contra-indicated in IHD or reduced LV ejection fraction. Caution in the presence of SAN or AV node and conduction disease, renal or liver impairment, and asthma. Increases concentration of digitalis and warfarin.	QRS duration increase >25% above baseline	Slight	Baseline, day 1, day 2–3
d,l sotalol	80–160 mg twice daily	Contra-indicated in the presence of significant LV hypertrophy, systolic heart failure, asthma, pre-existing QT prolongation, hypokalaemia, CrCl<50 mg/mL. Moderate renal dysfunction requires careful adaptation of dose.	QT interval >500 ms, QT prolongation by >60 ms upon therapy initiation	Similar to high dose blockers	Baseline, day 1, day 2–3

Profilaxis tromboembólica

- La anticoagulación oral reduce el riesgo de embolias en un 62%, con una reducción de la mortalidad total del 33%, y que los antiagregantes plaquetarios lo hacen sólo un 24%
- Es necesario realizar sistemáticamente la **estratificación del riesgo embólico (esquema CHA2DS2-VASc) y hemorrágico (escala HAS-BLED)** de todos los pacientes,y prescribir la tromboprofilaxis según las recomendaciones

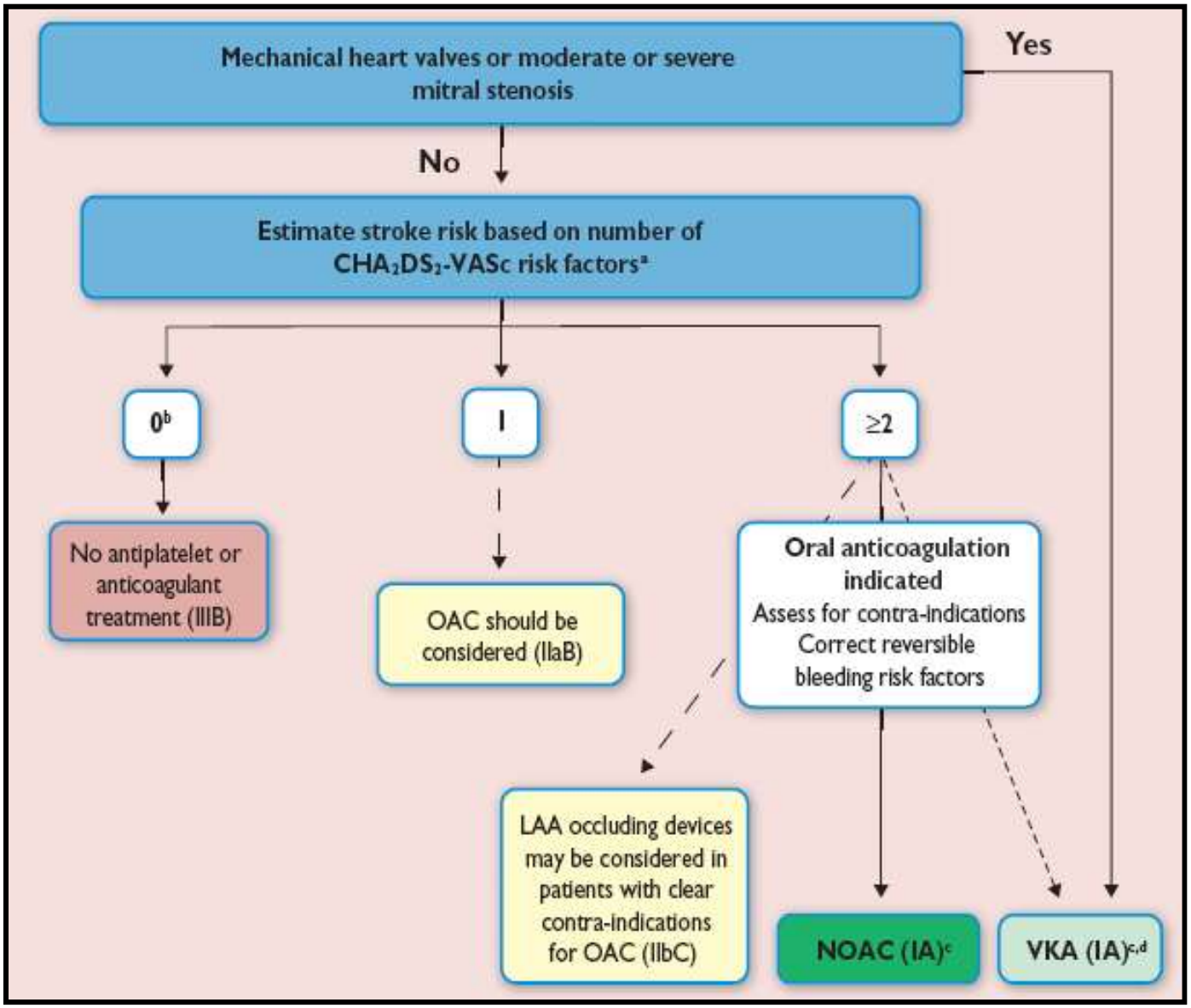
Recommendations for prediction of stroke and bleeding risk

Recommendations	Class[a]	Level[b]	Ref[c]
The CHA_2DS_2-VASc score is recommended for stroke risk prediction in patients with AF.	I	A	368, 371, 386
Bleeding risk scores should be considered in AF patients on oral anticoagulation to identify modifiable risk factors for major bleeding.	IIa	B	384, 386, 387, 389–392
Biomarkers such as high-sensitivity troponin and natriuretic peptide may be considered to further refine stroke and bleeding risk in AF patients.	IIb	B	380–382, 387, 393

Table 11 Clinical risk factors for stroke, transient ischaemic attack, and systemic embolism in the CHA_2DS_2-VASc score

CHA_2DS_2-VASc risk factor	Points
Congestive heart failure Signs/symptoms of heart failure or objective evidence of reduced left-ventricular ejection fraction	+1
Hypertension Resting blood pressure >140/90 mmHg on at least two occasions or current antihypertensive treatment	+1
Age 75 years or older	+2
Diabetes mellitus Fasting glucose >125 mg/dL (7 mmol/L) or treatment with oral hypoglycaemic agent and/or insulin	+1
Previous stroke, transient ischaemic attack, or thromboembolism	+2
Vascular disease Previous myocardial infarction, peripheral artery disease, or aortic plaque	+1
Age 65–74 years	+1
Sex category (female)	+1

Prevención de ICTUS en FA



Prevención de ICTUS en FA

Recommendations for stroke prevention in patients with atrial fibrillation

Recommendations	Class[a]	Level[b]	Ref[c]
Oral anticoagulation therapy to prevent thromboembolism is recommended for all male AF patients with a CHA_2DS_2-VASc score of 2 or more.	I	A	38, 318–321, 354, 404
Oral anticoagulation therapy to prevent thromboembolism is recommended in all female AF patients with a CHA_2DS_2-VASc score of 3 or more.	I	A	38, 318–321, 354, 404
Oral anticoagulation therapy to prevent thromboembolism should be considered in male AF patients with a CHA_2DS_2-VASc score of 1, considering individual characteristics and patient preferences.	IIa	B	371, 375–377
Oral anticoagulation therapy to prevent thromboembolism should be considered in female AF patients with a CHA_2DS_2-VASc score of 2, considering individual characteristics and patient preferences.	IIa	B	371, 376, 377
Vitamin K antagonist therapy (INR 2.0–3.0 or higher) is recommended for stroke prevention in AF patients with moderate-to-severe mitral stenosis or mechanical heart valves.	I	B	274, 435–440
When oral anticoagulation is initiated in a patient with AF who is eligible for a NOAC (apixaban, dabigatran, edoxaban, or rivaroxaban), a NOAC is recommended in preference to a Vitamin K antagonist.	I	A	39, 318–321, 404
When patients are treated with a vitamin K antagonist, time in therapeutic range (TTR) should be kept as high as possible and closely monitored.	I	A	395, 432, 441-444
AF patients already on treatment with a vitamin K antagonist may be considered for NOAC treatment if TTR is not well controlled despite good adherence, or if patient preference without contra-indications to NOAC (e.g. prosthetic valve).	IIb	A	39, 318, 319, 404, 408
Combinations of oral anticoagulants and platelet inhibitors increase bleeding risk and should be avoided in AF patients without another indication for platelet inhibition.	III (harm)	B	429, 445

Riesgo de sangrado

- **<u>Clasificación HAS-BLED</u>** para valorar el riesgo de sangrado en pacientes con FA, teniendo en cuenta que **una puntuación ≥ 3 indica «riesgo elevado» --** precaución y controlar regularmente al paciente después de iniciar un tratamiento antitrombótico, ya sea con AVK o con AAS.

TABLA 10. **Características clínicas del sistema de puntuación de sangrado HAS-BLED**

Letra	Característica clínica*	Puntos
H	Hipertensión	1
A	Función renal y hepática alteradas (un punto cada una)	1 o 2
S	Accidente cerebrovascular	1
B	Sangrado	1
L	INR lábil	1
E	Edad avanzada (> 65 años)	1
D	Fármacos o alcohol (un punto cada uno)	1 o 2
		Máximo 9 puntos

Table 12 Modifiable and non-modifiable risk factors for bleeding in anticoagulated patients based on bleeding risk scores

Hypertension (especially when systolic blood pressure is >160 mmHg)[a,b,c]
Labile INR or time in therapeutic range <60%[a] in patients on vitamin K antagonists
Medication predisposing to bleeding, such as antiplatelet drugs and non-steroidal anti-inflammatoy drugs[a,d]
Excess alcohol (≥8 drinks/week)[a,b]
Anaemia[b,c,d]
Impaired renal function[a,b,c,d]
Impaired liver function[a,b]
Reduced platelet count or function[b]
Age[a] (>65 years)[a] (≥75 years)[b,c,d]
History of major bleeding[a,b,c,d]
Previous stroke[a,b]
Dialysis-dependent kidney disease or renal transplant[a,c]
Cirrhotic liver disease[a]
Malignancy[b]
Genetic factors[b]
Biomarker-based bleeding risk factors
High-sensitivity troponin[e]
Growth differentiation factor-15[e]
Serum creatinine/estimated CrCl[e]


The End