“El tractament farmacològic de l’infart cerebral en fases no agudes: quan, amb què, durant quant de temps”

Dr A Arboix

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Different vascular risk factor profiles in ischemic stroke subtypes: a study from the "Sagrat Cor Hospital of Barcelona Stroke Registry"

Arboix A, Morcillo C, García-Eroles L, Oliveres M, Massons J, Targa C. Different vascular risk factor profiles in ischemic stroke subtypes: a study from the "Sagrat Cor Hospital of Barcelona Stroke Registry". Acta Neurol Scand 2000: 102: 264–270. © Munksgaard 2000.

A. Arboix[1], C. Morcillo[2], L. García-Eroles[3], M. Oliveres[1], J. Massons[1], C. Targa[1]

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Original Paper

European Neurology

Eur Neurol 1999;41:135–142

The Barcelona Stroke Registry

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- **GUIES MÈDIQUES OFICIALS DE DIAGNÒSTIC I TRACTAMENT** (2ª edició).
  Societat Catalana de Neurologia, 2011.
  - Tema IV. *Diagnòstic i tractament de les* ***MALALTIES VASCULARS CEREBRALS***

GUIES MÈDIQUES DE LA SOCIETAT CATALANA DE NEUROLOGIA

2a edició

Societat Catalana de Neurologia

04

Protocol de tractament

Diagnòstic i tractament de les malalties vasculars cerebrals

GUIES MÈDIQUES DE LA SOCIETAT CATALANA DE NEUROLOGIA

Societat Catalana de Neurologia

- **Guidelines for Management of Ischaemic Stroke and Transient Ischaemic Attack 2008**
  - *The European Stroke Organisation (ESO) Executive Committee and the ESO Writing Committee*
    - *(Cerebrovasc Dis 2008; 25: 457-507)*

- **ESPRIT** (AAS plus dipyridamole vs AAS)
  Lancet 2006; 367:1665-73.

- **PRoFESS** *(Eur Heart J 2008; 29: 1086-92)*

- **FASTER** *(Lancet Neurol 2007; 6: 961-9)*

- QUINA ES LA POBLACIO D'ESTUDI
  - INCIDENCIA
  - DADES DEMOGRAFIQUES
  - FACTORS DE RISC
  - ENTITATS NOSOLÒGIQUES

EDAD MEDIA

- EDAD MEDIA: **77 años** (DE=9.9)
- EDAD media HOMBRES: **75.7 años** (DE=9.9)
- EDAD media MUJERES: **79.4 años** (DE=10)

ICTUS INCIDENTES y RECURRENTES

	Incidentes	Recurrentes	Total
Hombres	386 (69,5%)	169 (30,5%)	555
Mujeres	456 (79,9%)	115 (20,1%)	571
Total	842 (74,8%)	284 (25,2%)	1126

- SUBTIPUS D'INFART CEREBRAL
  - LLACUNARS (malaltia de *petit vas*)
  - TROMBÒTICS (malaltia de *gran vas*)
  - CARDIOEMBÒLICS (*embolisme*)
  - CAUSA ESSENCIAL
  - CAUSA INHABITUAL

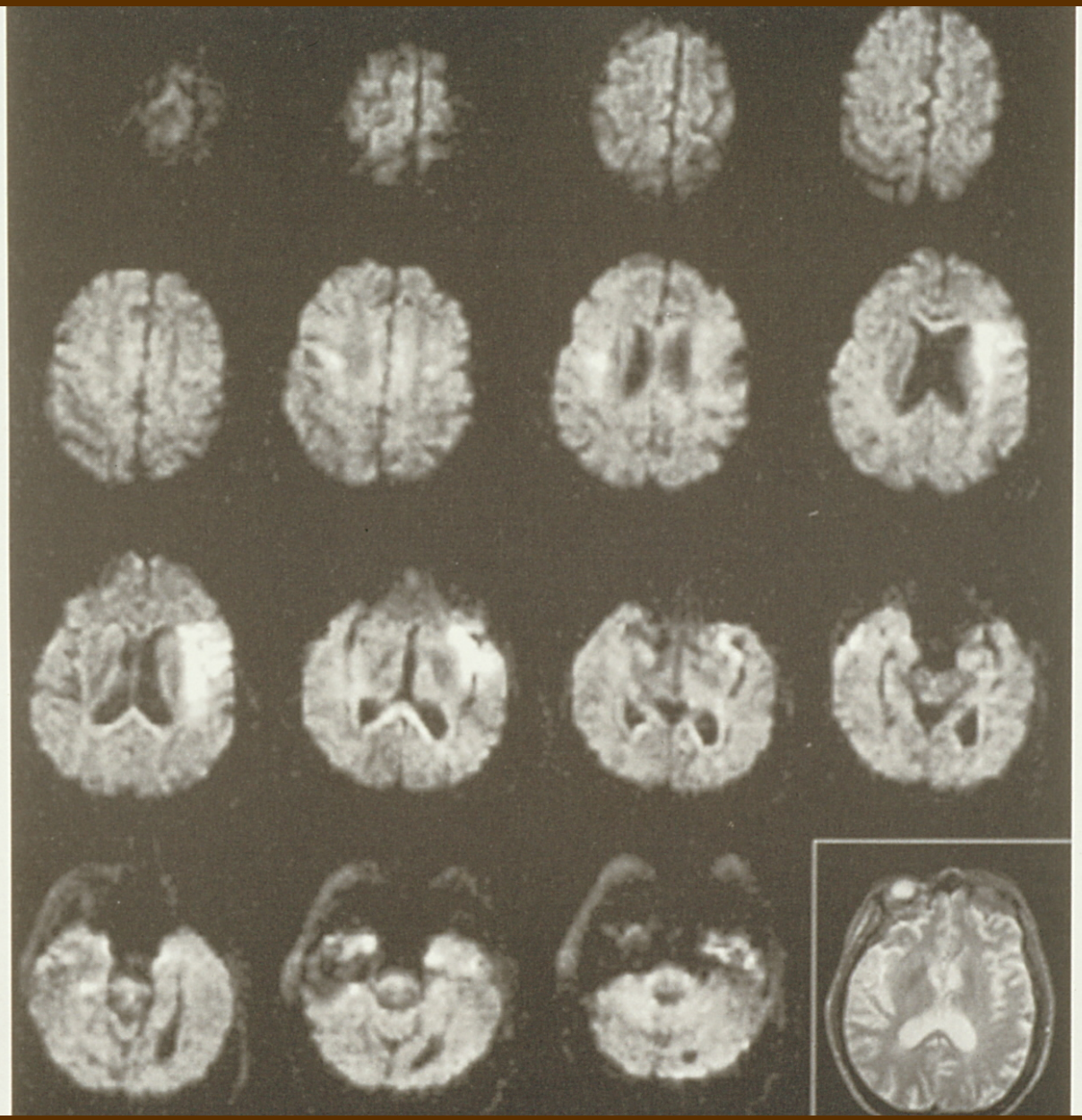
Análisis multivariante

(Resumen de las variables relacionadas con la HMP a partir de 4 modelos de RLM)

- Hipertension, OR=3.30 (2.39-4.55)
- Obesidad, OR=2.24 (1.17-4.27)
- Diabetes, OR=1.60 (1.13-2.28)
- Dislipemia, OR=1.51 (1.02-2.23)

- Inicio agudo (horas), OR=1.55 (1.11-2.17)
- Cápsula Interna, OR=14.17 (8.86-22.68)
- Protuberancia, OR=1.55 (0.82-2.90)

Arboix et al. J Neurol Neurosurg Psychiatry 2001; 71: 239-242



INFARTS CEREBRALS ATEROTROMBÒTICS

- **Endarterectomia**: dèficit residual mínim i estenosi de l'artèria caròtida interna extracranial homolateral a l'infart entre el 70-99%.
- Tractament **antiagregant plaquetar** amb àcid acetilsalicílic o clopidogrel.

Tractament antiagregant plaquetari

- "Combined **aspirin and dipyridamole**, or **clopidogrel alone**, should be given. Alternatively, **aspirine alone or triflusal alone**, may be used" *(Class I, Level A)*

Cerebrovasc Dis 2008; 25: 457-507

- Es recomana tractament amb estatines en pacients amb ictus no cardioembòlic (estudis classe I, recomanació nivell A).
- Es recomana que els pacients rebin tractament antitrombòtic (estudis classe I, recomanació nivell A).

(Guies Oficials de la Societat Catalana de Neurologia, 2ª ed, 2011)

SPS3

(*Secondary Prevention of Small Subcortical Strokes*)

- Ensayo clínico, randomizado, multicéntrico, coordinado *Dr. Benavente* (San Antonio, EEUU).
- Fase III
- Objetivos: recurrencia, deterioro cognitivo y eventos vasculares.
- Antiagregación (AAS vs AAS+clopidogrel)
- Control TA: usual (sistólica 130-148) *vs.* "intensa" (>130 mmHg).

European Journal of Neurology 2001, **8:** 133–139

Ischemic stroke of unusual cause: clinical features, etiology and outcome

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Keywords:
hematological disorders, hospital-based stroke registry, ischemic stroke, multivariate analysis, unusual cause

Received 19 February 2000
Accepted 20 September 2000

The clinical features, etiology and neurological outcome of ischemic stroke of unusual cause (ISUC) have rarely been reported. We retrospective reviewed all patients with this stroke subtype entered in the Sagrat Cor Hospital of Barcelona Stroke Registry, which includes data from 2000 consecutive first-ever stroke patients admitted to the hospital between 1986 and 1995. Patients with previous ischemia and/or hemorrhagic stroke were excluded. Topographic, anamnestic, clinical and neuroimaging characteristics of ISUC were assessed. Predictors of this stroke subtype were determined by logistic regression analysis. Ischemic stroke of unusual etiology was diagnosed in 70 patients (32 men and 38 women), with a mean ± SD age of 52 ± 22.4 years. This stroke subtype accounted for 4.3% of all first-ever strokes and 6% of all first-ever brain infarcts. Etiologies included hematological disorders in 17 cases, infection in 11, migraine stroke in 10, cerebral infarction secondary to venous thrombosis in nine, primary inflammatory vascular conditions in six and miscellaneous causes in 17. In the multivariate analysis after excluding cerebral venous thrombosis ($n = 9$) and arterial dissection ($n = 4$), because of typical clinical and radiological features, independent predictors of ISUC included 45 years of age or less (odds ratio [OR] 14.8), seizures (OR 6.8), headache (OR 5.2), hemianopia (OR 2.6) and occipital lobe involvement (OR 3.0). Patients with ISUC presented a lower in-hospital mortality rate (7.1% vs. 14.4%; $P < 0.05$), were more frequently symptom free at discharge (35.7% vs. 25.8%; $P < 0.05$) and experienced a longer mean length of hospital stay (23.7 days vs. 18.2 days; $P = 0.06$) than non-ISUC patients. We conclude that ISUC is infrequent, etiologies are numerous and hematologic disorders are the most frequent cause. We emphasize the better prognosis and the need to distinguish it from other ischemic stroke subtypes which have a different treatment approach and outcome.

Table 1 Unusual causes of stroke in 1164 cases of first-ever brain infarction included in the Sagrat Cor Hospital of Barcelona Stroke Registry

Etiology	No. of patients
Hematological disorders	17
Essential thrombocythemia	7
Polycythemia vera	2
Smoker's polycythemia	1
Acute lymphoblastic leukemia	1
Acute non-lymphoblastic leukemia	1
Waldenström's macroglobulinemia	1
IgA lambda myeloma	1
Lymphocytic lymphoma	1
Aplastic anemia	1
Primary anti-phospholipid syndrome	1
Infection	11
Syphilitic meningitis	4
Infective endocarditis	4
Meningococcal meningitis	1
Pneumococcal meningitis	1
HIV infection	1
Migraine stroke	10
Cerebral infarction secondary to venous thrombosis	9
Septic thrombophlebitis	2
Oral contraceptives	1
Behćet's disease	1
Protein C deficiency	1
Breast carcinoma	1
Sympathomimetics abuse	1
Idiopathic	2
Primary inflammatory vascular disorders	6
Giant cell arteritis	4
Systemic lupus erythematosus	1
Sarcoid angiitis	1
Miscellaneous	17
Arterial dissection	4
Marasmic endocarditis	2
Tumoral arterial cerebral compression	2
Embolization from arterial aneurysm	2
Perioperative stroke	2
MELAS	1
Pentosan polysulphate-induced thrombocytopenia with thrombosis	1
Moya Moya disease	1
Cocaine abuse	1
Homocystinuria	1
Total	70

Short Communication

Ischemic Stroke as First Manifestation of Essential Thrombocythemia

Report of Six Cases

Adrià Arboix, MD; Carles Besses, MD; Pilar Acín, MD; Juan B. Massons, MD; Lourdes Florensa, MD; Montserrat Oliveres, MD; Jordi Sans-Sabrafen, MD

Background Ischemic stroke as a presenting sign of essential thrombocythemia has been infrequently reported. We describe six patients in whom cerebrovascular disease was the first manifestation of this myeloproliferative disease. A positive endogenous megakaryocyte and/or erythroid colony growth from blood was a diagnostic criterion of essential thrombocythemia in patients with platelets counts lower than 600×10^9/L.

Case Descriptions These six patients represented 0.54% of all patients with first stroke, 42.8% of all hematologic disorders associated with stroke, and 12.5% of all patients with essential thrombocythemia diagnosed from 1986 to 1992 at our institution. Eleven acute cerebrovascular accidents (6 transient ischemic attacks, 5 definitive cerebral infarcts) were registered. Mean time from ischemic stroke to diagnosis of essential thrombocythemia was 4.5 months (range, 1 to 12 months). The mean platelet count was 597×10^9/L (range, 414 to 760×10^9/L). Four patients had platelets counts lower than 600×10^9/L. All patients had circulating erythroid progenitors, megakaryocytic progenitors, or both.

Conclusions Ischemic stroke as a presenting manifestation of essential thrombocythemia is probably underrecognized. The diagnosis of thrombocythemia should not be excluded on the basis of platelet counts lower than 600×10^9/L. The availability of in vitro culture of hematopoietic progenitors from peripheral blood makes it possible to diagnose early and atypical cases. (***Stroke*. 1995;26:1463-1466.**)

Key Words • cerebral ischemia • myeloproliferative disorders • diagnosis • thrombocythemia, hemorrhagic

Cardioembolic infarction in the Sagrat Cor-Alianza Hospital of Barcelona Stroke Registry

Arboix A, Vericat MC, Pujades R, Massons J, García-Eroles L, Oliveres M.
Cardioembolic infarction in the Sagrat Cor-Alianza Hospital of Barcelona Stroke Registry.
Acta Neurol Scand 1997: 96: 407–412

Table 1. In-hospital mortality according to stroke subtypes

Subtype	Alive	Dead	Percentage
Ischaemic	686	107	13.5
Lacunar	177	none	0
Cardioembolic	113	34	23.1
Atherothrombotic	215	54	20.1
Unusual cause	44	4	8.3
Undetermined origin	137	15	9.8
Haemorrhagic	139	54	27.9
Parenchymal haemorrhage	108	48	30.7
Subarachnoid haemorrhage	20	5	20
Subdural haematoma[1]	10	1	10
Epidural haematoma[1]	1	none	0

[1] Spontaneous, not resulting from injury.

(Arboix et al. Cerebrovasc Dis 1996; 6: 161-165)

European Journal of Neurology 1999, **6**:677–683

Early differentiation of cardioembolic from atherothrombotic cerebral infarction: a multivariate analysis

Adrià Arboix[a], Montserrat Oliveres[a] Juan Massons[a], Ramón Pujades[b] and Luis García-Eroles[c]

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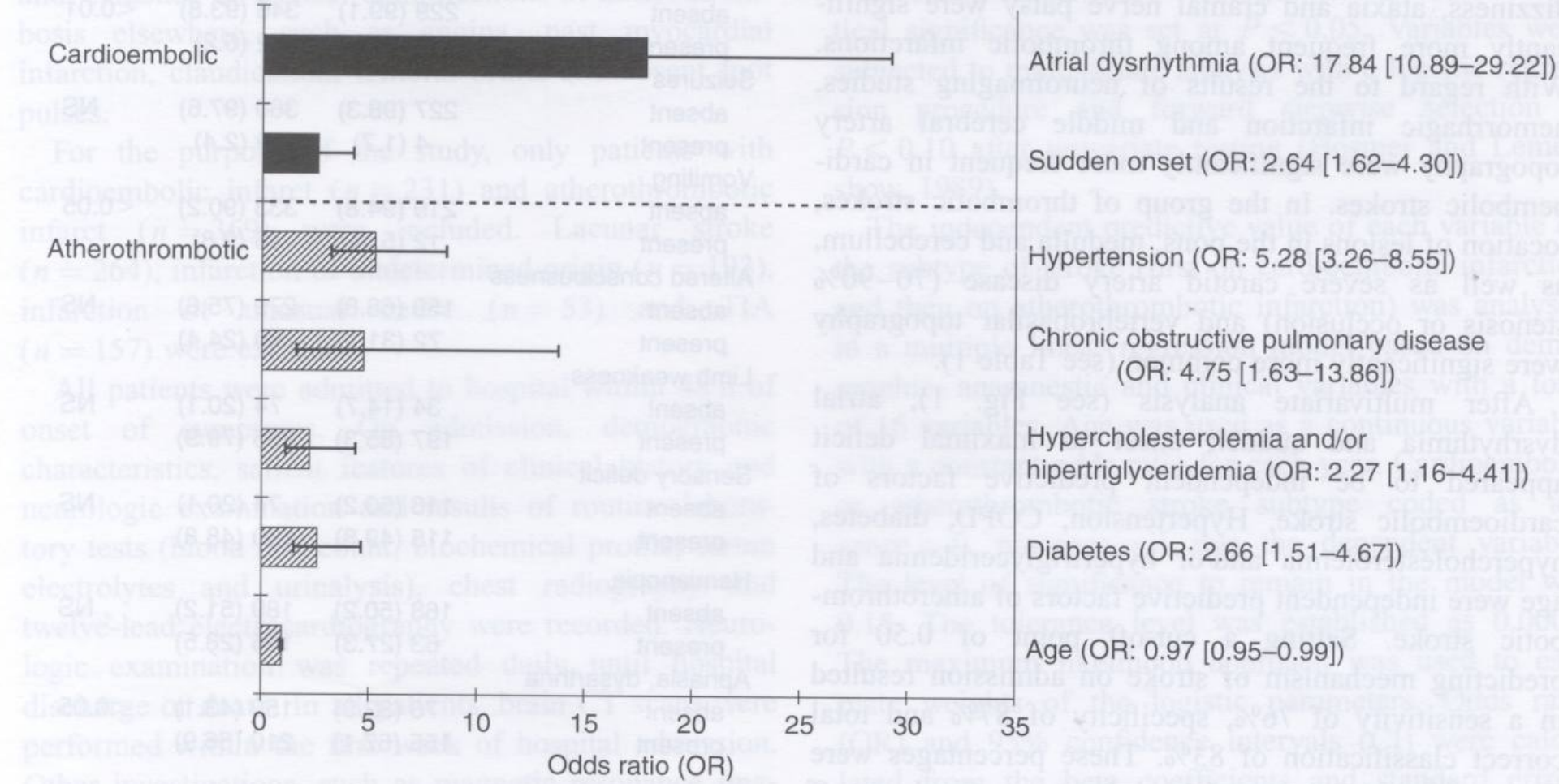

FIGURE 1. Odds ratios (OR) and 95% confidence intervals (CI) for diagnosis of cardioembolic or atherothrombotic infarction estimated from a logistic regression model based on demographic, anamnestic and clinical variables

ELSEVIER

International Journal of Cardiology 73 (2000) 33–42

International Journal of Cardiology

www.elsevier.com/locate/ijcard

Atrial fibrillation and stroke: clinical presentation of cardioembolic versus atherothrombotic infarction

Adrià Arboix MD[a,*], Lluis García-Eroles MD[b], Juan B. Massons MD[a], Montserrat Oliveres MD[a], Ramón Pujades MD[c], Cecilia Targa MD[a]

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ELSEVIER

International Journal of Cardiology 95 (2004) 129–134

International Journal of Cardiology

www.elsevier.com/locate/ijcard

Specific cardiac disorders in 402 consecutive patients with ischaemic cardioembolic stroke☆

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Abstract

Table 2
Cardiac disorders and pathophysiological mechanisms presumptively associated with cardioembolic stroke in 402 patients (distribution by cardiac source risk groups)

Cardiac source of embolism	Number of patients
Arrhythmia without structural heart disease	89 (22.1%)
Atrial fibrillation	88
Atrial flutter	1
Isolated structural heart disease	81 (20.1%)
Ischaemic heart disease	35
Acute myocardial infarction	3 (thrombus 2)
Left ventricular aneurysm	7 (thrombus 3)
Left ventricular ejection fraction $<40\%$	12
Akinesia/dyskinesia ≥ 2 segments	13 (thrombus 3)
Dilated cardiomyopathy	24 (thrombus 5)
Mitral annular calcification	14[a]
Cardiac tumour	4
Aortic prosthetic valve	4
Endocarditis	2
Atrial septal aneurysm with patent foramen ovale	2
Rheumatic mitral valve disease	1
Mitral valve prolapse	1
Calcified aortic stenosis	1
Moderate mitral valve regurgitation	1
Structural heart disease and atrial arrhythmia	232 (57.7%)
Atrial fibrillation	230
Atrial flutter	2
Hypertrophic hypertensive cardiac disease	120
Rheumatic mitral valve disease	49 (thrombus 7)
Ischaemic heart disease	19
Left ventricular aneurysm	3 (thrombus 1)
Left ventricular ejection fraction $<40\%$	9
Akinesia/dyskinesia ≥ 2 segments	7 (thrombus 1)
Mitral annular calcification	26[b]
Dilated cardiomyopathy	13 (thrombus 2)
Mitral valve prolapse	4
Mitral prosthetic valve	3 (thrombus 2)
Lipomatous hypertrophy of the atrial septum	2
Hypertrophic cardiomyopathy	2
Atrial septal aneurysm and patent foramen ovale	2
Severe mitral regurgitation	2

[a] In 8 patients in association with a structural cardiac source of embolism (dilated cardiomyopathy, $n=2$; ischaemic heart disease with ventricular

CODICIA **Serena J et al. Stroke 2008; 39: 3131-3136**

- Multicéntric: 17 hospitals
- Risc de recurrència en FOP en infarts essencials
- n=486 pacients, seguiment 729 dies
- Risc recurrència molt baix: 5.8% global i 2.5% anual, similar al dels infarts essencials sense FOP
- Risc recurrència menor en joves (3.5% global i 1.7% anual).

TÉCNICAS DE IMAGEN

Papel de las placas complejas de ateroma aórtico en la recurrencia del infarto cerebral de etiología incierta

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Mitral Annular Calcification as a Marker of Complex Aortic Atheroma in Patients with Stroke of Uncertain Etiology

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The aim of this study was to evaluate the presence of dense mitral annular calcification as a marker of complex aortic atherosclerosis in patients with stroke of uncertain etiology. One hundred twenty-one patients with stroke of uncertain etiology were evaluated for complex aortic atherosclerotic plaques; their presence and severity were correlated with transthoracic echocardiographic findings, demographic data, and cardiovascular risk factors. Complex plaques in the ascending aorta or aortic arch were found in 72 of the 121 patients (59.5%). The only difference seen in patients with or without plaques was the presence of dense mitral annular calcification (58.3 vs 16.3%; $P < 0.001$). Dense mitral annular calcification ($n = 50$) was associated with higher prevalence of complex aortic plaques (84.0% vs 42.3%; $P < 0.001$), mobile components (28.0% vs 9.9%; $P < 0.01$), and protruding (80.0% vs 36.6%; $P < 0.001$), ulcerated (16.0% vs 1.4%; $P < 0.01$), and multisite complex plaques (46.0% vs 9.0%; $P < 0.001$). Therefore, in patients with stroke of uncertain etiology dense mitral annular calcification is an important marker of aortic atherosclerosis with high risk of embolism, and this association may explain in part the high prevalence of stroke and peripheral embolism in patients with mitral annular calcification. (ECHOCARDIOGRAPHY, Volume 25, February 2008)

TABLE II

Prevalence of Cardiovascular Risk Factors and Echocardiographic Findings and Complex Atheroma Plaques in the Proximal Aorta in Patients with Stroke of Uncertain Etiology with and without Dense Mitral Annular Calcification

Variable	With Dense MAC (n = 50)	Without Dense MAC (n = 71)	P
Age	70.6 ± 8	70.5 ± 8	NS
Men (%)	26 (52.0%)	41 (57.7%)	NS
Hypertension	17 (34.0%)	27 (38.0%)	NS
Hypercholesterolemia	9 (18.0%)	13 (18.3%)	NS
Smoking	6 (12.0%)	10 (14.1%)	NS
Diabetes mellitus	4 (8.0%)	5 (7.0%)	NS
Coronary heart disease	1 (2.0%)	2 (2.8%)	NS
Peripheral arteriopathy	1 (2.0%)	1 (1.4%)	NS
Left ventricular hypertrophy (overall)	22 (44.0%)	32 (45.1%)	NS
Mild	10 (20.0%)	14 (19.7%)	NS
Moderate	8 (16.0%)	11 (15.5%)	NS
Severe	4 (8.0%)	7 (9.9%)	NS
Maximal diameter of the left atrium (mm)	40 ± 4	38 ± 4	NS
Calcification of the mitral leaflets	6 (12.0%)	8 (11.3%)	NS
Maximal diameter of the proximal aorta (mm)	35 ± 3	35 ± 3	NS
Aortic complex atheroma plaques (grades II and III)	42 (84.0%)	30 (42.3%)	<0.001
Plaques with mobile component (grade III)	14 (28.0%)	7 (9.9%)	<0.01
Ulcerated plaques	8 (16.0%)	1 (1.4%)	<0.01
Grades II or III plaques with intraluminal protrusion	40 (80.0%)	26 (36.6%)	<0.001

Dense MAC = mitral annular calcification (≥5 mm); NS = nonsignificant.

Conclusions

- **Quan**?: en el moment del seu diagnostic. Descartada l'hemorragia cerebral amb neuroimatge.
- **Amb que**?
  - Tractament antiagregant plaquetari (lacunars/gran vas)
  - Tractament anticoagulant (cardioembolics)
  - Tractament individualitzat (infart d'etiologia inhabitual)
- **Quan de temps**?
  - Resistència al tractament antitrombòtic: "un moment de reflexió"