

# AFECCIÓN AÓRTICA EN LA ARTERITIS DE CÉLULAS GIGANTES

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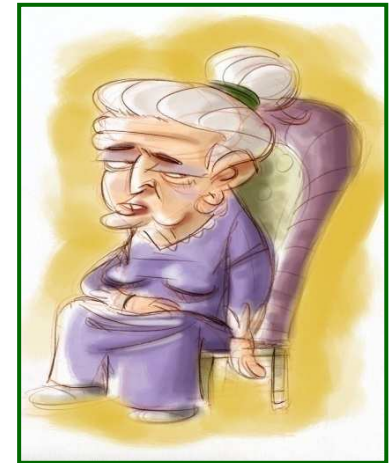
**CLÍNIC**  
**BARCELONA**  
Hospital Universitari

VI Reunión del GEAS  
18 de Octubre de 2013



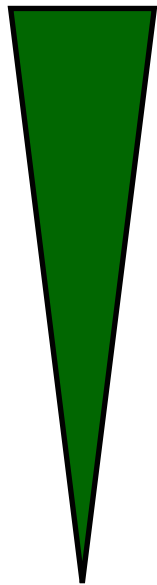
# INTRODUCCIÓN

- Sistémica granulomatosa
-  : 
- Vasculitis más frecuente en > 50 años
- Vasculitis de gran vaso más frecuente en nuestro medio

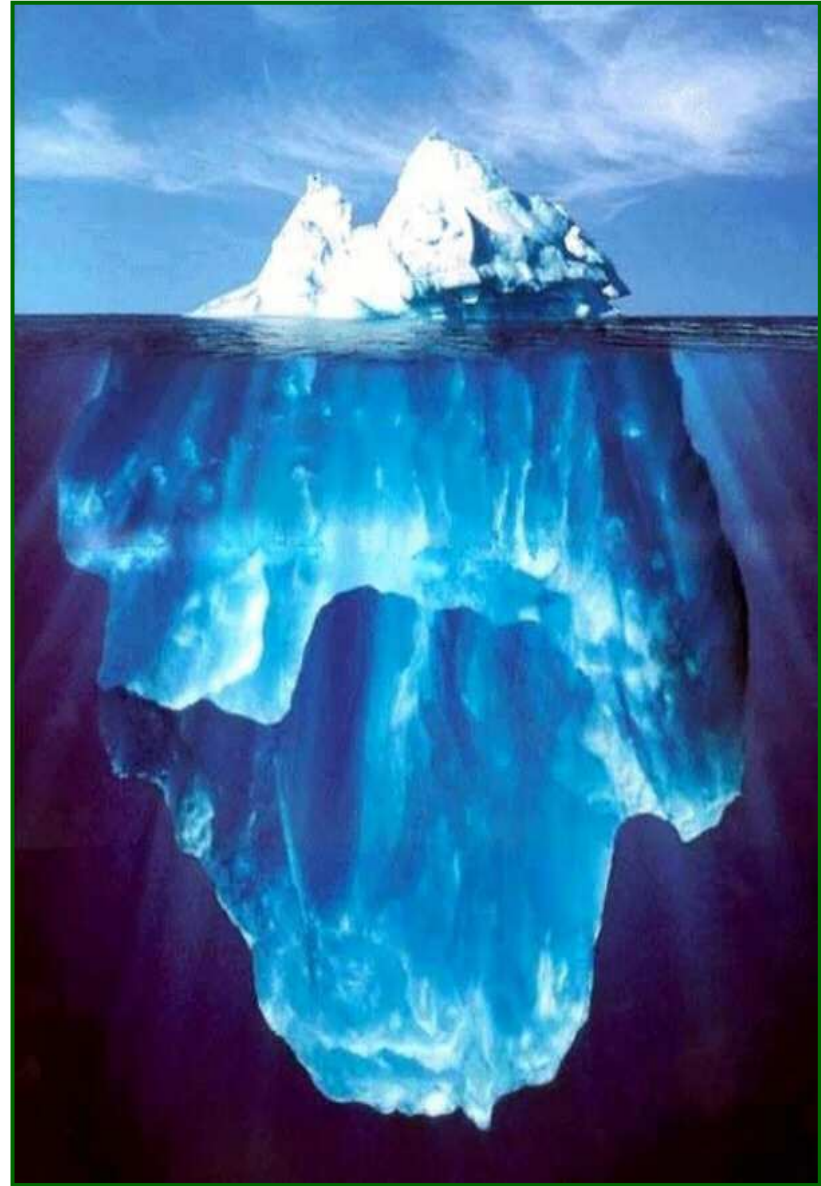
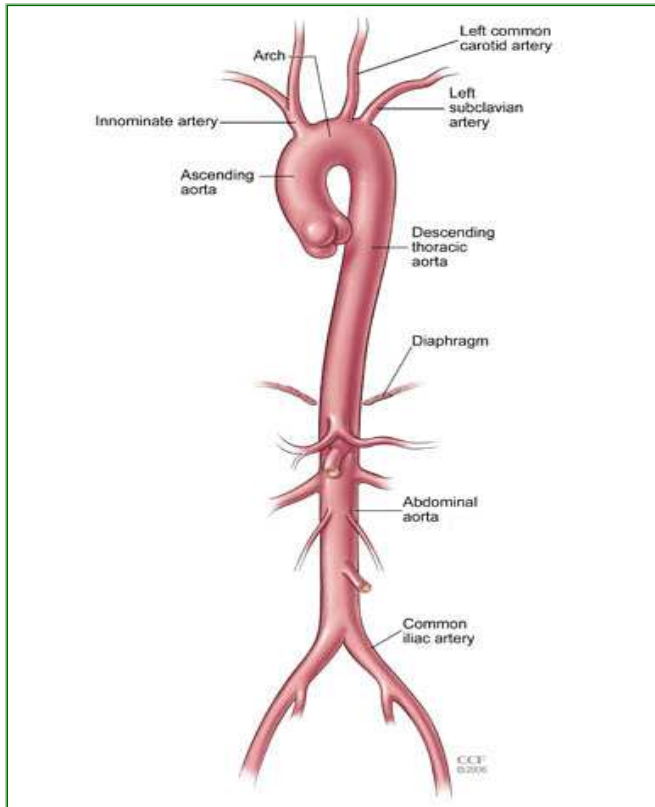
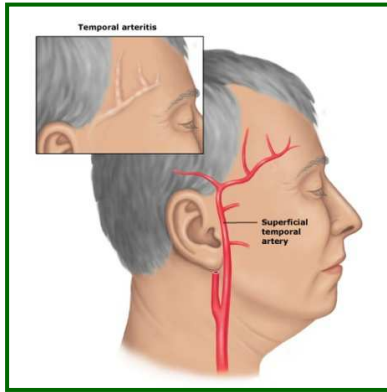


# INTRODUCCIÓN

## CLÍNICA



- Craneal 80%
- Sistémica 70-80%
- PMR 40-50%
- Isquémica (ocular) 20%



# AFECTACIÓN AÓRTICA

① Tipo:

A. **AORTITIS** (inflamación)

B. **DILATACIÓN/ANEURISMA**

(daño estructural)

② Relación aortitis-dilatación

③ Diagnóstico de ACG

④ Morbimortalidad

⑤ Tratamiento

1A

# AORTITIS

## DETECCIÓN

Necropsias (casos) a finales 30s



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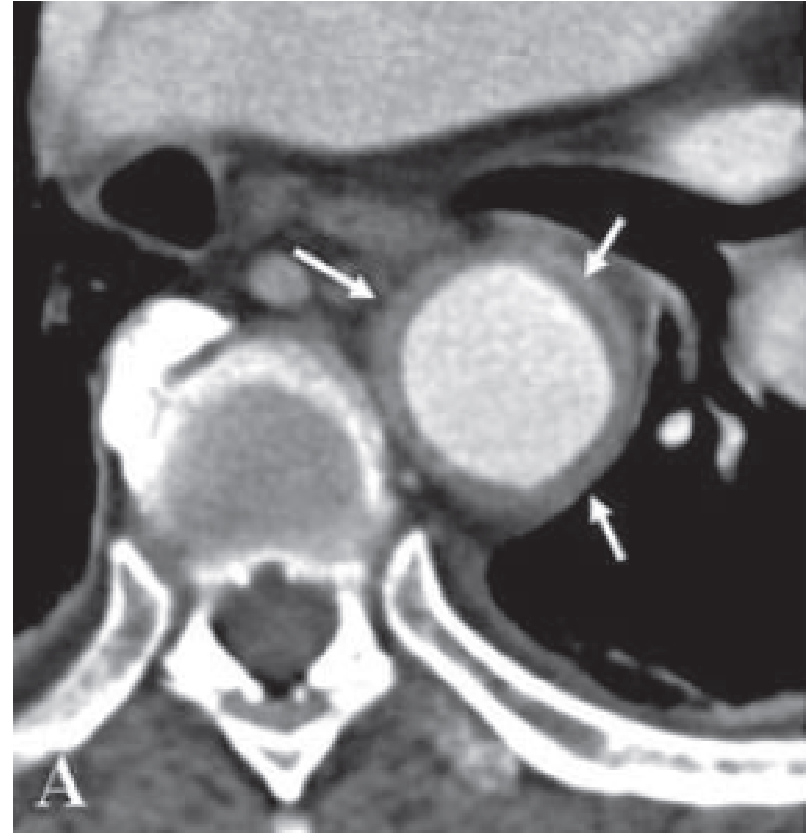
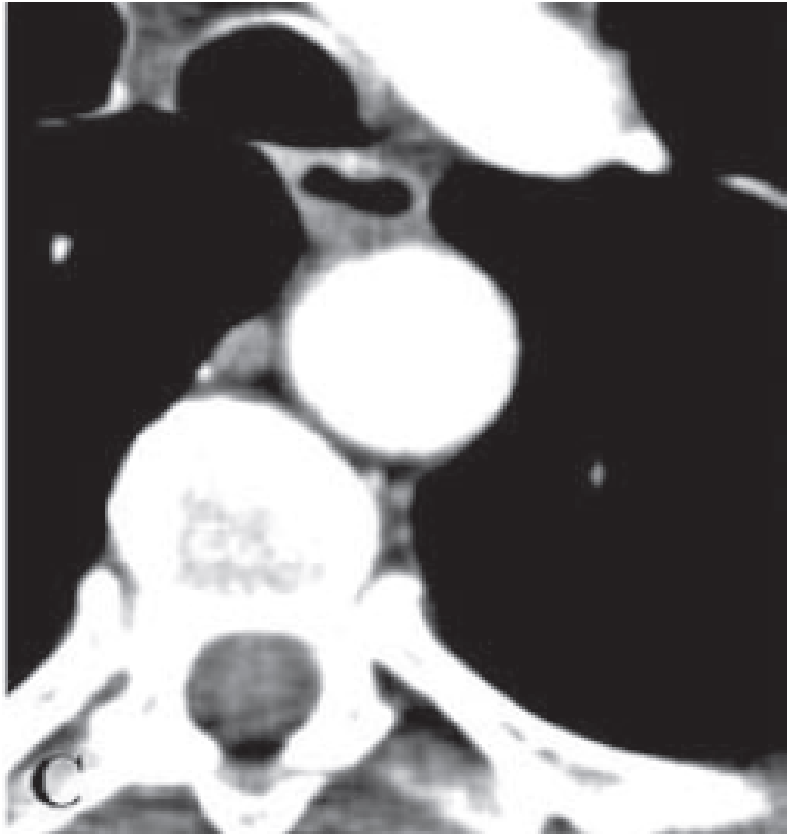
## PREVALENCIA

- Sistemático prospectivo
- 13 necropsias → 12 inflamación → **>90%**
- Varios segmentos afectados
- Sesgo por casos más graves?

*Sproul EE. Am J Path 1937*  
*Gilmour JR. J Pathol Bacteriol 1941*  
*Ostberg G. Acta Med Scand 1972*

# AORTITIS – Diagnóstico

<b>Blockmans</b> (Arthritis Rheum 2006)	<b>Agard</b> (Arthritis Rheum 2008)	<b>Prieto-González</b> (Ann Rheum Dis 2012)
PET	TC contraste	Angio-TC
35 pacientes	22 pacientes	40 pacientes
SIN tratamiento	1 <sup>er</sup> mes tratamiento	< 3 d de tratamiento
Global: 54% AT: 51% AA: 54%	Global: 45% AT: 45% AA: 27%	Global: 65% ATA: 30% C: 57,5% ATD: 57,5% AA: 47,5%



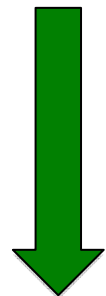


# AORTITIS – Seguimiento

## OUTCOME OF AORTIC INVOLVEMENT IN GIANT CELL ARTERITIS (GCA) AFTER 1-YEAR FOLLOW-UP: PROSPECTIVE STUDY USING COMPUTED TOMOGRAPHY ANGIOGRAPHY (CTA)

S. Prieto-González<sup>1,\*</sup>, P. Arguis<sup>2</sup>, A. García-Martínez<sup>1,3</sup>, M. Corbera-Bellalta<sup>1</sup>, I. Tavera-Bahillo<sup>1</sup>, G. Espígol-Frigolé<sup>1</sup>, E. Planas-Rigol<sup>1</sup>, M. A. Alba<sup>1</sup>, J. Hernández-Rodríguez<sup>1</sup>, M. C. Cid<sup>1</sup>

<sup>1</sup>Systemic Autoimmune Diseases, <sup>2</sup>Center for Diagnostic Imaging, <sup>3</sup>Department of Emergency Medicine, Hospital Clínic Barcelona, Barcelona, Spain



Serie inicial: 40

Perdidos: 5

Grupo de estudio: **35 pacientes**



No consentimiento: 3

Demencia: 1

?: 1

Visitas protocolizadas y tratamiento estandarizado

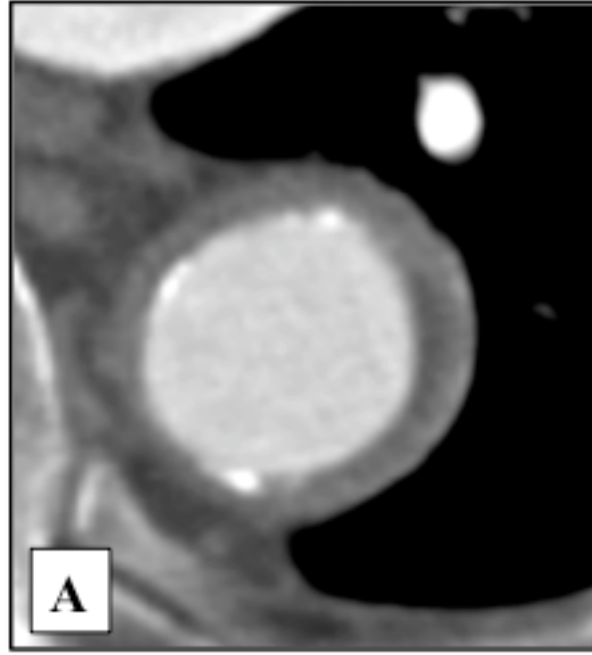
Angio-TC (igual protocolo)

	<b>At diagnosis</b>	<b>One-year follow-up</b>
<b>Vascular territory involved</b>	<b>Number of patients (%)</b>	<b>Number of patients (%)</b>
LVV	25 (71,4%)	17 (48,6%)
Aorta	24 (68,6%)	16 (45,7%)
Thoracic aorta	24 (68,6%)	
Ascending	10 (28,6%)	
Arch	19 (54,3%)	
Descending	21 (60%)	
Abdominal aorta	16 (45,7%)	
Panaortitis	8 (22,8%)	

**2/3**

		<b>At diagnosis</b>	<b>At followup</b>	<b>p*</b>
<b>Aortic wall thickening (mm) †</b>	<b>Ascending thoracic aorta</b>	1,51±0,81	1,22±0,59	<b>0,018</b>
	<b>Aortic arch</b>	2,31±1,02	1,77±0,87	<b>0,002</b>
	<b>Descending thoracic aorta</b>	2,74±1,06	2,02±0,95	<b>&lt;0,001</b>
	<b>Abdominal aorta</b>	1,68±0,86	1,31±0,58	<b>0,012</b>

	At diagnosis				At one-year follow-up			
Patient	ATA	Ao Arch	DTA	AA	ATA	Ao Arch	DTA	AA
1								
2								
3								
4								
5								
6								
7								
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9								
10								
11								
12								
13								
14								
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17								
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23								
24								
25								
26								
27								
28								
29								
30								



	<b>At diagnosis</b>		<b>At one-year follow-up</b>	
<b>Patient</b>	<b>TA</b>	<b>AA</b>	<b>TA</b>	<b>AA</b>
1				
2			NT	
3				
4				
5				
6				
7				
8				
9				
10			NT	NT
11				
12				
13			NT	NT
14				
15				
16				



# DILATACIÓN

## ESTUDIOS RETROSPECTIVOS

<b>Evans (1995)</b>	<b>Nueninghoff (2003)</b>	<b>Kermani (2013)</b>	<b>González-Gay (2004)</b>
98 p	168 p	204 p	210 p
1950-1985	1950-1999	1950-2004	1981-2001
8,6 a	7,6 a	8,8 a	---
16 (16,6%)	30 (18%)	33 (16%)	20 (9,5%)

*Evans JM et al. Ann Intern Med 1995  
Robson JC et al. Ann Rheum Dis 2013 [Epub]  
Nueninghoff DM et al. Arthritis Rheum 2003  
Kermani TA et al. Ann Rheum Dis 2013 [Epub]  
González-Gay et al. Medicine 2004*

# DILATACIÓN

\* Al diagnóstico: {  
3/22 (13,6%)  
6/40 (15%)



\* 1 año seguimiento: sin cambios



# DILATACIÓN

## **Development of Aortic Aneurysm/Dilatation During the Followup of Patients With Giant Cell Arteritis: A Cross-Sectional Screening of Fifty-Four Prospectively Followed Patients**

ANA GARCÍA-MARTÍNEZ, JOSÉ HERNÁNDEZ-RODRÍGUEZ, PEDRO ARGUIS, PILAR PAREDES, MARTA SEGARRA, ESTER LOZANO, CARLOS NICOLAU, JOSÉ RAMÍREZ, FRANCESC LOMEÑA, MIGUEL JOSA, FRANCESCA PONS, AND MARIA C. CID

- 54 pacientes
- 5,4 años (4-10,5) de seguimiento y tto estándar
- Rx tórax +/- TC +/- ecografía abdominal

12 (22,2%) → dilatación/aneurisma (AT)

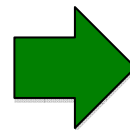
# DILATACIÓN

## EXTENDED REPORT

**Prospective long term follow-up of a cohort of patients with giant cell arteritis screened for aortic structural damage (aneurysm or dilatation)**

Ana García-Martínez,<sup>1</sup> Pedro Arguis,<sup>2</sup> Sergio Prieto-González,<sup>3</sup>  
Georgina Espígol-Frigolé,<sup>3</sup> Marco A Alba,<sup>3</sup> Montserrat Butjosa,<sup>1</sup> Itziar Tavera-Bahillo,<sup>1</sup>  
José Hernández-Rodríguez,<sup>3</sup> Maria C Cid<sup>3</sup>

**2nd screening (n=36)**  
Follow-up period: 8.7 years (6.9-13.6)  
Age of patients: 81 years (66-97)



**3rd screening completed (n=14)**  
Folow-up period: 12.8 years (10.3-16)  
Age of patients: 81 years (71-94)

# DILATACIÓN

## EXTENDED REPORT

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José Hernández-Rodríguez,<sup>3</sup> Maria C Cid<sup>3</sup>

- 16 pacientes con aneurisma (33% - 29%)
- Primeros 5 años
- Progresión de la dilatación
- 8 con indicación quirúrgica (50%)
- 3 intervenidos

# 2

# AORTITIS-DILATACIÓN

## Relationship between fluorodeoxyglucose uptake in the large vessels and late aortic diameter in giant cell arteritis

D. Blockmans<sup>1</sup>, W. Coudyzer<sup>2</sup>, S. Vanderschueren<sup>1</sup>, S. Stroobants<sup>3</sup>, D. Loeckx<sup>4</sup>, S. Heye<sup>2</sup>, L. De Ceuninck<sup>3</sup>, G. Marchal<sup>2</sup> and H. Bobbaers<sup>1</sup>

Aortic dimensions (mean ± s.d.)	FDG-uptake negative	FDG-uptake positive	P-value
▶ *4 Diameter of the ascending aorta (mm)	37.0 ± 2.8	40.4 ± 6.9	0.025
Diameter of the aortic arch (mm)	30.1 ± 3.6	31.2 ± 3.6	0.281
* Diameter of the descending aorta (mm)	30.6 ± 4.0	33.5 ± 5.3	0.044
* Volume of the thoracic aorta (cm <sup>3</sup> )	253 ± 51	301 ± 81	0.029
▶ T Diameter of the suprarenal abdominal aorta (mm)	23.5 ± 3.0	25.5 ± 3.3	0.094
Diameter of the juxtarenal abdominal aorta (mm)	21.7 ± 2.5	22.8 ± 2.1	0.192
Diameter of the infrarenal abdominal aorta (mm)	20.0 ± 2.7	21.1 ± 3.6	0.629
Volume of the abdominal aorta (cm <sup>3</sup> )	63 ± 19	64 ± 14	0.925

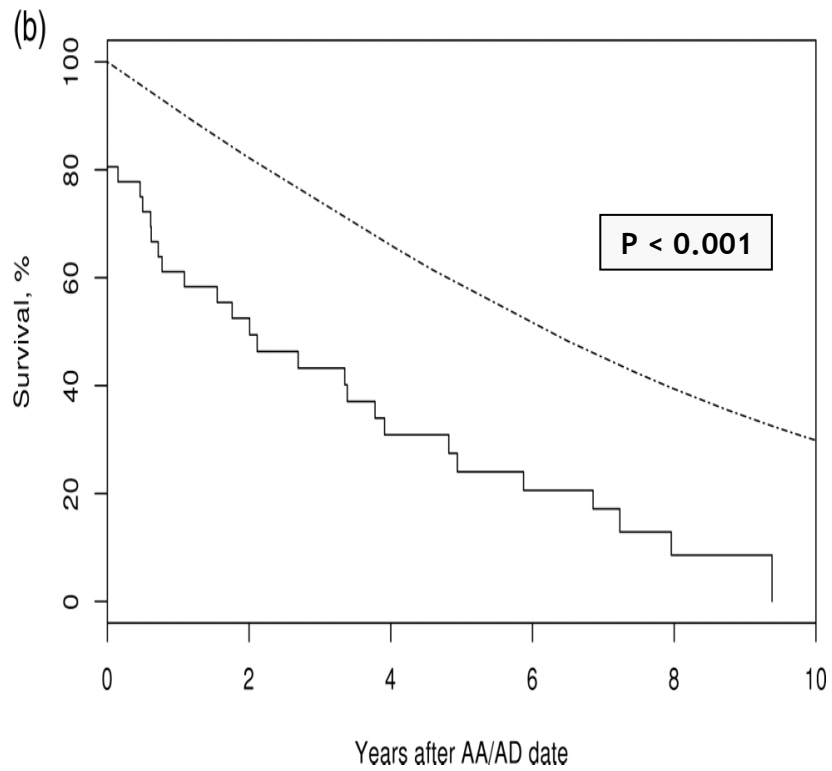
# MORBIMORTALIDAD

**Table 1.** Median survival of patients with GCA, by subgroup of large-artery complication\*

Subgroup	No. of patients	Median survival after diagnosis of GCA, years	IQR	<i>P</i> †
No large-artery complication	122	10.9	5.2–18.1	NA
Any large-artery complication	46	10.6	3.1–20.1	0.84
Aortic aneurysm and/or dissection	30	9.6	2.1–20.1	0.99
Aortic aneurysm	25	14.1	5.0–20.7	0.33
Thoracic aortic aneurysm	13	12.3	5.0–20.7	0.43
Abdominal aortic aneurysm	16	14.1	4.0–20.7	0.55
Aortic dissection	10	1.6	0.2–7.8	<0.001
Thoracic aortic dissection	9	1.1	0.2–7.8	<0.001
Abdominal aortic dissection	1	7.8	NA	NA
Large-artery stenosis	21	10.6	4.9–20.4	0.55
Cervical artery stenosis	15	8.6	4.7–19.3	0.86
Subclavian/axillary/brachial artery stenosis	6	16.5	4.7–22.8	NA
Lower-extremity artery stenosis	1	20.4	NA	NA

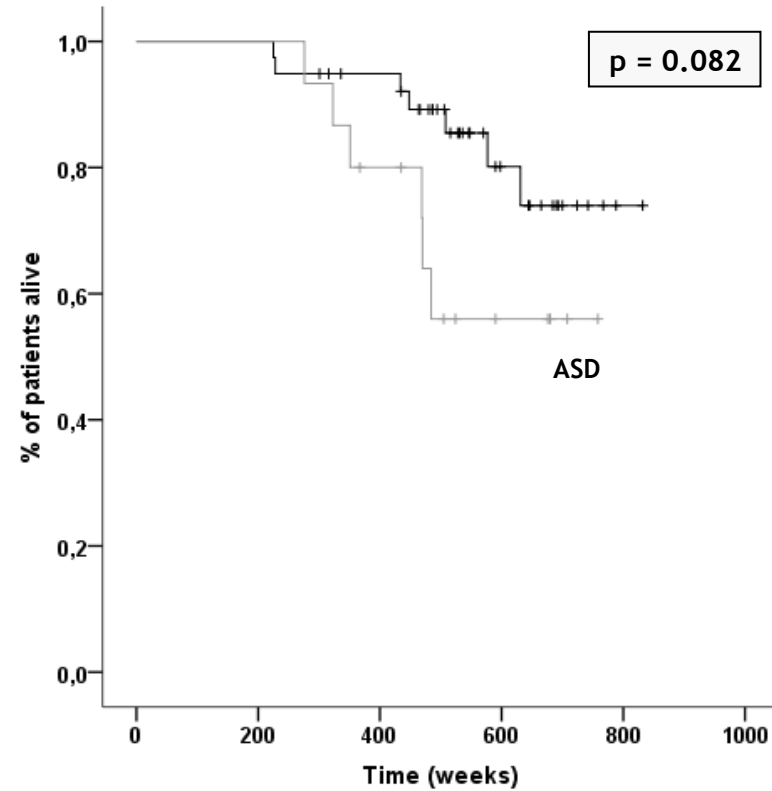
\* Some patients had >1 complication (see ref. 30). GCA = giant cell arteritis; IQR = interquartile range; NA = not applicable (due to limited sample size).

† By log rank test, versus group without any large-artery complication.



(CV y pulmonar)

*Kermani TA et al.*  
*Ann Rheum Dis 2013 [Epub ahead of print]*



(global)

*García-Martínez A et al.*  
*Ann Rheum Dis 2013 [Epub ahead of print]*



# DIAGNÓSTICO DE ACG

- ✧ **Biopsia de arteria temporal**
- ✧ Eco-doppler arteria temporal (meta-análisis)
- ✧ Detección de afectación de GV: PET – PET/TC

# **Diagnostic performance of $^{18}\text{F}$ -fluorodeoxyglucose positron emission tomography in giant cell arteritis: a systematic review and meta-analysis**

**Florent L. Besson • Jean-Jacques Parienti •  
Boris Bienvenu • John O. Prior • Sylvie Costo •  
Gerard Bouvard • Denis Agostini**

6 estudios: 101 VGV / 182 controles

S 80% - E 89% - VPP 85% – VPN 88%

Estudios heterogéneos

Escala visual / semicuantitativa → Difícil extrapolación

Influencia de aterosclerosis



**EULAR13-3141**

**DIAGNOSTIC PERFORMANCE OF PET/CT IN PATIENTS WITH NEWLY DIAGNOSED, BIOPSY-PROVEN, GIANT-CELL ARTERITIS. A PROSPECTIVE, CASE-CONTROL STUDY USING ROC ANALYSIS AT DIFFERENT VASCULAR TERRITORIES**

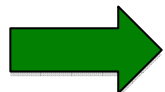
S. Prieto-González<sup>1,\*</sup>, M. Depetris<sup>2</sup>, A. García-Martínez<sup>3</sup>, G. Espígol-Frigolé<sup>1</sup>, E. Planas-Rigol<sup>1</sup>, M. Corbera-Bellalta<sup>1</sup>, I. Tavera-Bahillo<sup>1</sup>, M. Butjosa<sup>1</sup>, M. A. Alba<sup>1</sup>, J. M. Grau<sup>4</sup>, J. Hernández-Rodríguez<sup>1</sup>, F. Lomeña<sup>2</sup>, M. C. Cid<sup>1</sup>

<sup>1</sup>Systemic Autoimmune Diseases, <sup>2</sup>Centre for Diagnostic Imaging, <sup>3</sup>Emergency Medicine, <sup>4</sup>Internal Medicine, Hospital Clínic, Barcelona, Spain

Estudio prospectivo caso/control (32/20) con PET/TC  
SUVm en TSA, TIF y Ao  
Curvas ROC

\* TSA: AUC 0,826 – cut-off de 1,70 (S 81% - E 79%; p<0,001)

\* Ao: AUC 0,740 – cut-off de 2,25 (S 90% - E 42%; p=0,001)



Objetivo y reproducible

- No estudios de intervención
- Aortitis: relación con detección inicial (29 vs 77%)  
no relación con persistencia (?)
- Aneurisma: menos tratamiento (menos rebrotes)
- RECOMENDACIÓN: tratamiento estándar

# CONCLUSIONES (I)

- ▷ Frecuente afectación de GV en ACG
- ▷ Aortitis:
  - Al diagnóstico 45-65%
  - Seguimiento al año: 2/3 (no actividad – remodelado vascular?)
- ▷ Dilatación:
  - Mayor riesgo poblacional
  - Retrospectivo: 9,5-18%
  - Prospectivo: 22,2-33% (5 primeros años)

# CONCLUSIONES (II)

- ▷ Relación inflamación – daño estructural ?:
  - Prevalencia/distribución diferente
  - Intensidad de la inflamación +/- remodelado vascular +/- factores hemodinámicos
- ▷ Influencia en morbimortalidad
- ▷ Utilidad en el diagnóstico de ACG: PET
- ▷ Tratamiento habitual de ACG
- ▷ Despistaje / seguimiento recomendado ?



**¡GRACIAS!**