



# EULAR *review*

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Sociedad Española de  
Reumatología

# Enfermedades Autoinmunes Sistémicas: Vasculitis, Miopatías y Otras Conectivopatías

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# Added value of FDG-PET/CT to detect aortic involvement in patients with ultrasound proven giant cell arteritis

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# ADDED VALUE OF FDG-PET/CT TO DETECT AORTIC INVOLVEMENT IN PATIENTS WITH ULTRASOUND PROVEN GIANT CELL ARTERITIS

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## Objetivos:

- Valor añadido FDG-PET/TC detectar aortitis en ACG comprobada por US
- identificar factores asociados afectación aórtica

## Métodos:

- Estudio observacional retrospectivo 2 centros 4 años
- ACG comprobada por US
- US basal (24-48 horas)arterias craneales y extracraneales (carótida, subclavia y axilar)
- FDG-PET/TC se realizó criterios clínicos

## Resultados:

- 186 ACG → 72 PET:
  - 48 (66,7%) no aortitis PET
  - 24 (33,3%) aortitis PET
- Aortitis:
  - + jóvenes
  - > % mujeres
  - > plaquetas
  - ninguno síntomas visuales
  - + fr signos ecográficos ACG-VL

## Conclusión:

- FDG-PET/CT detectar afectación aórtica 1 de cada 3 pc ACG eco.
- 50% LV-GCA por US □ FDG-PET/CT negativos.
- Jóvenes, ♀, trombocitosis, sin clínica visual y patrón ecográfico ACG-VI : aortitis por PET

Table 1. Clinical and imaging findings of patients included with and without aortic involvement.

	Total n=72	Patients with aortic involvement in FDG-PET/CT n=24 (33.3%)	Patients without aortic involvement in FDG-PET/CT n=48 (66.7%)	p
<b>Demographics</b>				
Age, mean (SD)	77 (9.1)	68.9 (8.1)	81 (6.5)	<0.001
Female, n (%)	38 (52.8%)	19 (79.2%)	19 (39.6%)	0.002
<b>Clinical variables</b>				
Headache, n (%)	49 (68.1%)	14 (58.3%)	35 (72.9%)	0.211
Jaw claudication, n (%)	16 (22.2%)	4 (16.7%)	12 (25%)	0.423
Visual symptoms, n (%)	15 (20.8%)	0 (0%)	15 (31.2%)	0.001
Ocular ischaemia, n (%)	6 (8.3%)	0 (0%)	6 (12.5%)	0.07
Constitutional symptoms, n (%)	42 (58.3%)	17 (70.8%)	25 (52.1%)	0.128
Fever, n (%)	19 (26.4%)	9 (37.5%)	10 (20.8%)	0.130
Morning stiffness in shoulders/neck, n (%)	38 (52.8%)	10 (41.7%)	28 (58.3%)	0.182
<b>Laboratory findings</b>				
CRP (mg/L), mean (SD)	85.8 (79.6)	101.8 (77.8)	77.8 (80.4)	0.230
ESR (mm/h), mean (SD)	68.6 (33.6)	69.7 (31.8)	68 (34.7)	0.839
Haemoglobin (g/dL), mean (SD)	11.9 (1.6)	11.5 (1.5)	12.1 (1.7)	0.139
Platelets 10 <sup>9</sup> /L, mean (SD)	343.7 (95.7)	413.4 (169.7)	311.11 (131.1)	0.014
<b>Histology</b>				
Temporal artery biopsy positive n=22, n (%)	9 (40.9%)	2 (28.6%)	7 (46.7%)	0.421
<b>Imaging</b>				
Positive cranial ACG US, n (%)	50 (69.4%)	10 (41.7%)	40 (83.3%)	<0.001
Positive large vessel-GCA US, n (%)	42 (58.3%)	22 (91.7%)	20 (41.7%)	<0.001
Negative large vessel-GCA US, n (%)	30 (41.7%)	2 (8.3%)	28 (58.3%)	<0.001
Isolated positive large vessel ACG US, n (%)	22 (30.6%)	14 (58.3%)	8 (16.7%)	<0.001

# COMPARATIVE EFFICACY OF SECUKINUMAB VERSUS TUMOR NECROSIS FACTOR INHIBITORS FOR THE TREATMENT OF TAKAYASU'S ARTERITIS

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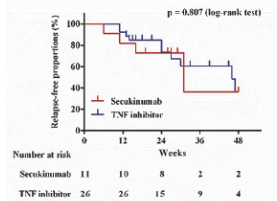
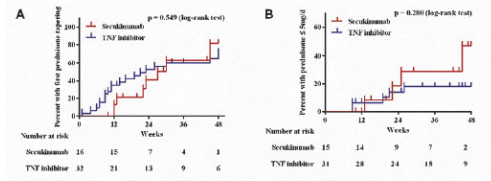
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## Objetivos:

- Eficacia secu vs TNFi inducción remisión recaída TAK

## Métodos:

- estudio cohorte abierto, prospectivo, unicentro
- TAK activa no respuesta GC + 2 IS
- Secu o TNFi
- RC:
  - resolución completa signos y síntomas
  - marcadores inflamatorios normales
  - ausencia progresión imágenes arterias afectadas
  - GC <15 mg/día
- RP:
  - = RC excepto VSG <40 mm/hora y PCR <20mg/L.



## Resultados:

- 19 Secu y 34 TNFi
- GC basal  $\leq$  15 mg/día
- RC + RP:
  - 3m  $\rightarrow$  31,6% secu / 58,8% TNFi ( $p=0,506$ )
  - 6m  $\rightarrow$  52,6% secu / y 64,7% TNFi ( $p=0,389$ )
- $\approx$ :
  - tiempo hasta inicio GC y hasta PD  $\leq$  5 mg/día (Figura 1)
  - $\downarrow$  significativa VSG, PCR e IL-6 1, 3 y 6m
- 6m:
  - $\downarrow$  GC 31,6% secu / 52,9 % TNFi
  - $\downarrow$  FAMEc: 2 secu / 4 TNFi
- No  $\neq$  mediana dosis GC
- Eventos adversos:
  - 2 secu: infecciones (1 stop)
  - 2 TNFi stop: 1 infección grave y 1 rash severo

## Conclusiones:

- Secu y TNFi efectivos TAK no responden tto conveccional

# TREAT-TO-TARGET RECOMMENDATIONS IN GIANT CELL ARTERITIS AND POLYMYALGIA RHEUMATICA

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## Objetivos:

- Determinar dianas terapéuticas y desarrollar recomendaciones T2T en ACG y PMR

## Métodos:

- RSL:
  - Objetivos tto y resultados ACG/PMR, así como
  - Evidencia efectividad manejo basados T2T
  - Grupo trabajo: **29 participantes/10 países** (médicos, profesionales salud y pacientes)

## Resultados:

- 5 principios generales y 6 recomendaciones específicas (Tabla 1).
  - **Mensajes clave:**
    - manejo ACG y PMR decisiones médico-paciente
    - tto urgente ACG evitar complicaciones isquémicas
    - maximizar calidad vida relacionada con la salud
  - **Objetivos tto:**
    - logro y mantenimiento remisión
    - prevenir isquemia tisular y daño vascular
  - Evaluación actividad enfermedad y selección tto → **comorbilidades**

## Conclusión:

- 1<sup>as</sup> recomendaciones T2T ACG y PMR
- Objetivos tto y estrategias evaluar, lograr y mantener estos objetivos
- lagunas evidencia y necesidades futuras investigaciones

Overarching principles	LoE	LoA
A. Clinical management of GCA and PMR should be driven by the awareness that they are closely interrelated conditions in a common spectrum of inflammatory disease and can occur separately, simultaneously or in temporal sequence to each other.	n.a.	9.896.3% ≥8
B. GCA is a medical emergency because of the imminent risk of sight loss and other ischemic events and therefore requires immediate treatment; management usually requires multidisciplinary collaboration.	n.a.	9.9100% ≥8
C. Patients should be offered access to information about GCA and PMR, including clinical disease features, patient reported outcomes, potential complications, treatment related benefits and risks, as well as relevant comorbidities.	n.a.	9.796.3% ≥8
D. Management of GCA and PMR should be based on shared decision making between the informed patient and the physician.	n.a.	9.8100% ≥8
E. Treatment of GCA and PMR should aim at maximizing health-related quality of life through control of symptoms, preventing disease-related damage and minimizing treatment-related adverse consequences, taking relevant comorbidities into account.	n.a.	9.9100% ≥8
<b>Recommendations</b>		
1. The treatment target of GCA and PMR should be remission; remission is the absence of clinical symptoms and systemic inflammation.	5	9.696.3% ≥8
2. Treatment of GCA should also aim to prevent tissue ischemia and vascular damage.	5	9.9100% ≥8
3. Treatment selection in GCA and PMR should be based on disease severity and activity, presence of relevant comorbidities and potential predictors of outcome; treatment should be modified as needed during follow-up.	5	9.9100% ≥8
4. Comorbidities may influence the assessment of the treatment target and should be considered before modifying treatment.	5	9.8100% ≥8
5. Once remission is reached, it should be maintained with the minimal effective dose of medication <sup>#</sup> ; drug-free remission may be achieved in a proportion of patients <sup>##</sup> .	5 <sup>#</sup> - 2 <sup>##</sup>	9.9100% ≥8
6. Disease activity in GCA and PMR should be monitored regularly, as frequently as every 1-4 weeks until remission has been achieved, and at longer monitoring intervals (for example between 3 and 6 months) in patients in stable remission on therapy; monitoring of patients off therapy should be discussed on an individual basis.	5	9.8100% ≥8

LoE: Level of Evidence; LoA: Level of Agreement

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## INTRODUCTION

Anti-neutrophil cytoplasmic antibodies (ANCA) associated vasculitis (AAV) is a small vessel vasculitis hallmarked by the presence of antibodies against antigens in cytoplasmic granules of neutrophils. Different microbiological agents and vaccines can trigger an AAV, including severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) infection and Coronavirus disease 2019 (COVID-19) vaccine.

## OBJECTIVE

To compare: **a)** proportion of positive ANCA (+ANCA) test in 2019 (COVID-19 pre-pandemic) vs 2021 (COVID-19 pandemic), **b)** clinical features and **c)** vasculitis activity between vasculitis related to COVID-19 vaccination vs non-related.

## METHODS

- All ANCA tests performed in 2019 and 2021 in a referral hospital were reviewed.
- We studied 18 +ANCA patients diagnosed in 2021 and accepted to participate in present study.
- Divided in two groups: **a)** +ANCA after SARS-CoV-2 mRNA vaccine (**COVIDvac-related**) and +ANCA before COVID-19 vaccine (**COVIDvac-nonrelated**).

Diagnosis of underlying AAV was based on ACR/EULAR 2022 criteria. Disease activity was assessed with Birmingham Vasculitis Activity Score (BVAS). ANCA testing was done by chemiluminescence assay using IO-FLASH (Inova, San Diego, CA) according to the instructions of the manufacturer.

## RESULTS

- ANCA tests were positive in 14 of 1287 cases (1.1%) and in 32 of 1434 (2.2%) cases in 2019 and 2021, respectively (figure).
- COVID-19 related patients showed a median of 7 points on BVAS score compared to the median of 5 points on BVAS score on not related patients.

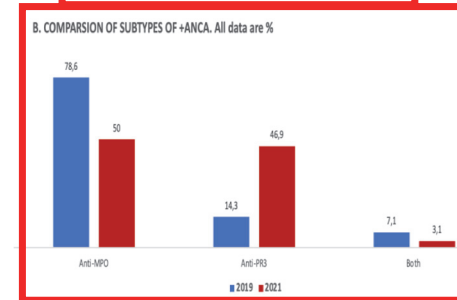
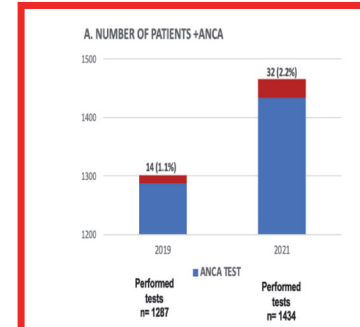
FEAT URES	ALL CASES n= 18	RELATED COVID <sub>vac</sub> n= 13	NON RELATED COVID <sub>vac</sub> n= 5	p value*
Age (years), mean±SD	62±17	67±15.3	52±16.5	0.167
Male/ Female n, (% male)	10/8 (55.6)	9/4 (69.2%)	1/4(20)	0.067
<b>ANCA test specificity, n (%)</b>				
MPO-ANCA	9 (50)	7 (53.8)	2(40)	0.609
PR3-ANCA	8 (44.4)	5 (38.5)	3(60)	0.423
Both	1 (5.6)	1 (7.7)	0	-
CRP (mg/dL), median [IQR]	2.4 [0.4-10.7]	3.8 [0.4-10.1]	1 [0.4-10.9]	0.802
ESR, mm/1st hours, median [IQR]	50 [25-104]	47 [25.3-71.8]	50 [25-120]	0.634
BVAS, median [IQR]	6.5 [4.2-8]	7 [4-8]	5 [5-8]	0.842
FFS, n (%)				
0	3 (16.7)	2 (15.4)	1 (20)	0.819
≥1	15 (83.3)	11 (84.6)	4 (80)	0.819
<b>Involvement, n (%)</b>				
ENT	12(66.7)	10 (76.9)	2 (40)	0.148
MSK	11(61.1)	7(53.8)	4 (80)	0.322
CNS/PNS	10 (55.6)	7 (53.8)	3 (60)	0.819
Lung	9 (50)	6 (46.2)	3 (60)	0.609
Kidney	8 (44.4)	7 (53.8)	1 (40)	0.208
Ocular	2 (11.1)	2 (15.4)	0	0.366
Cutaneous	2 (11.1)	0	2 (40)	0.019

\*p values according to Man Whitney test

Abbreviations (in alphabetical order): AAV: anti-neutrophil cytoplasmic antibodies (ANCA)-associated vasculitis; ACR: American college of Rheumatology; ANCA: Antineutrophil cytoplasmic antibody; BVAS: Birmingham Vasculitis Activity Score; CNS: central nervous system; CRP: C-Reactive protein; dL: deciliter; ENT: ear, nose, throat; ESR: erythrocyte sedimentation rate; FFS: Five-Factors Score; g: IQR: Interquartile range; mg: milligram; MSK: musculoskeletal; MPO-ANCA= ANCA specific for myeloperoxidase; n=Number; PNS: peripheral nervous system; PR3-ANCA= ANCA specific for proteinase 3; SD: Standard Deviation

## CONCLUSIONS

There seems to be an increase of +ANCA at the expense of anti-PR3 antibodies following the COVID-19 vaccine. In patients with +ANCA following vaccination there seems to be an increased disease activity according to BVAS score without reaching statistical significance.





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