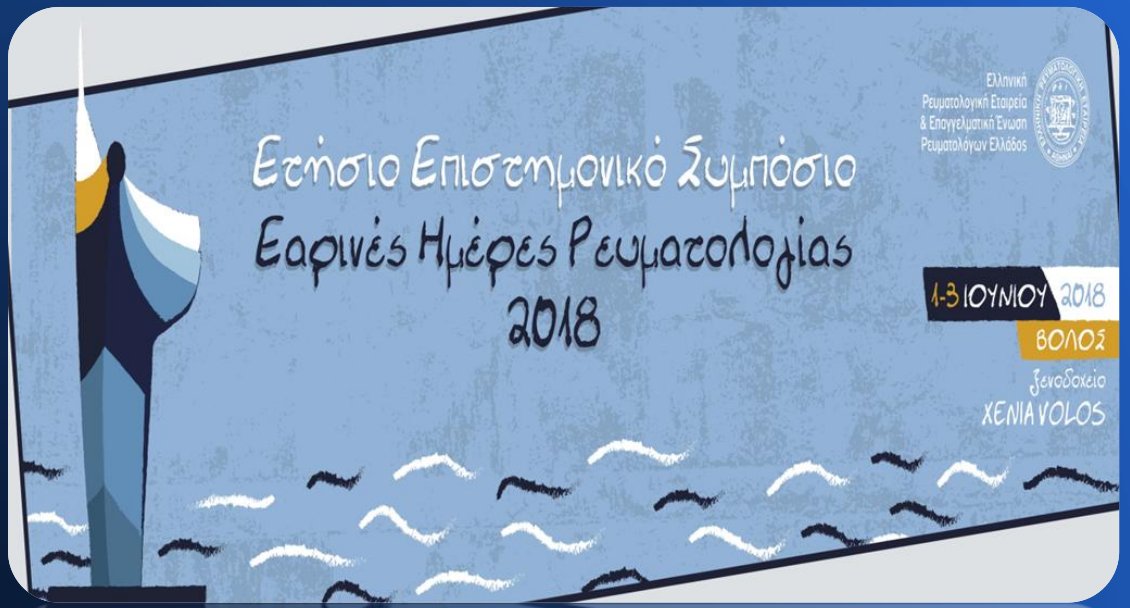
Συστάσεις (EULAR) για τη χρήση της απεικόνισης στις αγγειίτιδες μεγάλων αγγείων



Κατερίνα Σιάγκρη
Ρευματολόγος

Δήλωση Σύγκρουσης Συμφερόντων

Καμία αμοιβή για την ομιλία.

Roche, Hospital Line, Novartis, Janssen-Cilag, MSD,

Genesis Pharma

Recommendation

EULAR recommendations for the use of imaging in large vessel vasculitis in clinical practice

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Dejaco C, *et al*. *Ann Rheum Dis* 2018;**77**:636–643. doi:10.1136/annrheumdis-2017-212649

Table 2 EULAR recommendations for the use of imaging in LVV in clinical practice

Statement	LoE	LoA
1. In patients with suspected GCA, an early imaging test is recommended to complement the clinical criteria for diagnosing GCA, assuming high expertise and prompt availability of the imaging technique. Imaging should not delay initiation of treatment.	1	9.2 (2.1) 90% ≥8
2. In patients in whom there is a high clinical suspicion of GCA and a positive imaging test, the diagnosis of GCA may be made without an additional test (biopsy or further imaging). In patients with a low clinical probability and a negative imaging result, the diagnosis of GCA can be considered unlikely. In all other situations, additional efforts towards a diagnosis are necessary.	2	9.4 (1.0) 90% ≥8
3. Ultrasound of temporal±axillary arteries is recommended as the first imaging modality in patients with suspected predominantly cranial GCA*. A non-compressible 'halo' sign is the ultrasound finding most suggestive of GCA.	1	9.7 (0.6) 100% ≥8
4. High resolution MRI† of cranial arteries‡ to investigate mural inflammation may be used as an alternative for GCA diagnosis if ultrasound is not available or inconclusive.	2	9.2 (1.1) 90% >8
5. CT† and PET† are not recommended for the assessment of inflammation of cranial arteries.	5	9.5 (1.2) 95% >8
6. Ultrasound, PET, MRI and/or CT may be used for detection of mural inflammation and/or luminal changes in extracranial arteries to support the diagnosis of LV-GCA. Ultrasound is of limited value for assessment of aortitis.	3 (PET and CT) and 5 (MRI and ultrasound)	9.8 (0.6) 100% ≥8
7. In patients with suspected TAK, MRI to investigate mural inflammation and/or luminal changes should be used as the first imaging test to make a diagnosis of TAK, assuming high expertise and prompt availability of the technique.	3	9.1 (1.4) 90% >8
8. PET, CT and/or ultrasound may be used as alternative imaging modalities in patients with suspected TAK. Ultrasound is of limited value for assessment of the thoracic aorta.	3 (CT) and 5 (PET and ultrasound)	9.4 (0.8) 100% ≥8
9. Conventional angiography is not recommended for the diagnosis of GCA or TAK as it has been superseded by the previously mentioned imaging modalities.	5	9.8 (0.6) 100% ≥8
10. In patients with LVV (GCA or TAK) in whom a flare is suspected, imaging might be helpful to confirm or exclude it. Imaging is not routinely recommended for patients in clinical and biochemical remission.	5	9.4 (0.8) 100% ≥8
11. In patients with LVV (GCA or TAK), MRA, CTA and/or ultrasound may be used for long-term monitoring of structural damage, particularly to detect stenosis, occlusion, dilatation and/or aneurysms. The frequency of screening as well as the imaging method applied should be decided on an individual basis.	5	9.3 (1.2) 95% ≥8
12. Imaging examination should be done by a trained specialist using appropriate equipment, operational procedures and settings. The reliability of imaging, which has often been a concern, can be improved by specific training. Suggestions for technical and operational parameters are depicted in box 1.	5	9.8 (0.6) 100% ≥8

Numbers in column 'LoA' indicate the mean and SD (in parentheses) of the LoA, as well as the percentage of task force members with an agreement ≥8.
*Cranial symptoms of GCA include headache, visual symptoms, jaw claudication, swelling and/or tenderness of temporal arteries.
†CT and MRI also refers to specific angiography techniques such as CT angiography (CTA) and MR angiography (MRA), and PET is commonly combined with CT or CTA.
‡Cranial arteries: superficial temporal, occipital and facial, usually all visible in one examination in MRI.
EULAR, European League Against Rheumatism; GCA, giant cell arteritis; LoA, level of agreement; LoE, level of evidence; LV-GCA, large vessel GCA; LVV, large vessel vasculitis; PET, positron emission tomography; TAK, Takayasu arteritis.

LoA

9,2 (2,1)

90% ≥8

R/1. In patients with suspected GCA, an early imaging test is recommended to compliment the clinical criteria for diagnosing GCA, assuming high expertise and prompt availability of the imaging technique.

Imaging should not delay initiation of treatment.

LoA

9,4 (1,0)

90% ≥8

R/2. In patients in whom there is a high clinical suspicion of GCA and a positive test, the diagnosis of GCA may be made without an additional test (biopsy or further imaging).

In patients with a low clinical probability and a negative imaging result, the diagnosis of GCA can be considered unlikely.

In all other situations, additional efforts towards a diagnosis are necessary.

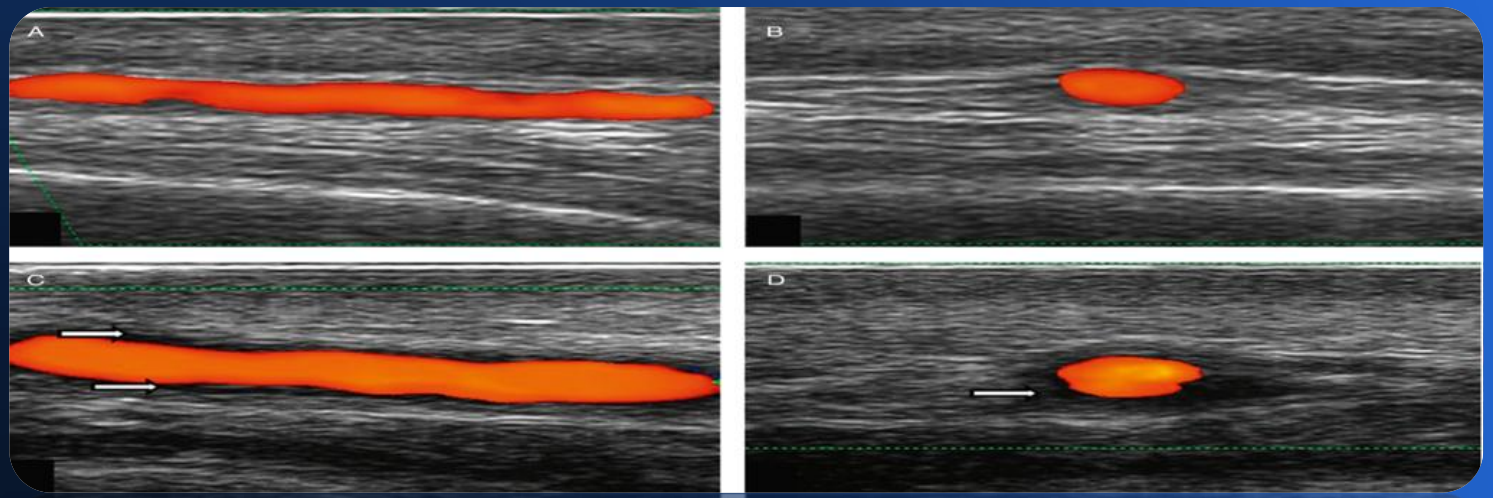
LoA

9,7 (0,6)

100%

≥8

R/3. Ultrasound of temporal +/- axillary arteries is recommended as the first imaging modalities in patients with suspected predominantly cranial GCA.
A non-compressible 'halo' sign is the ultrasound finding most suggestive of GCA.

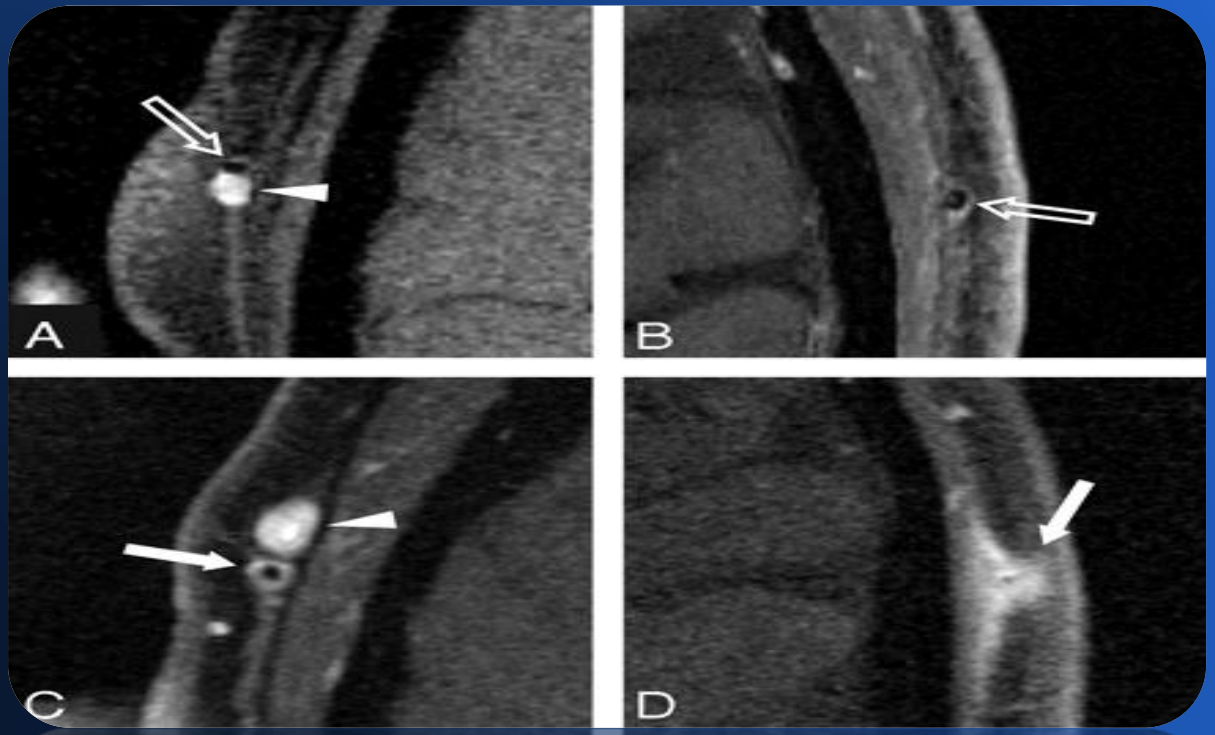


LoA

9,2 (1,1)

90%>8

R/4. High resolution MRI of cranial arteries to investigate mural inflammation may be used as an alternative for GCA diagnosis if ultrasound is not available or inconclusive.

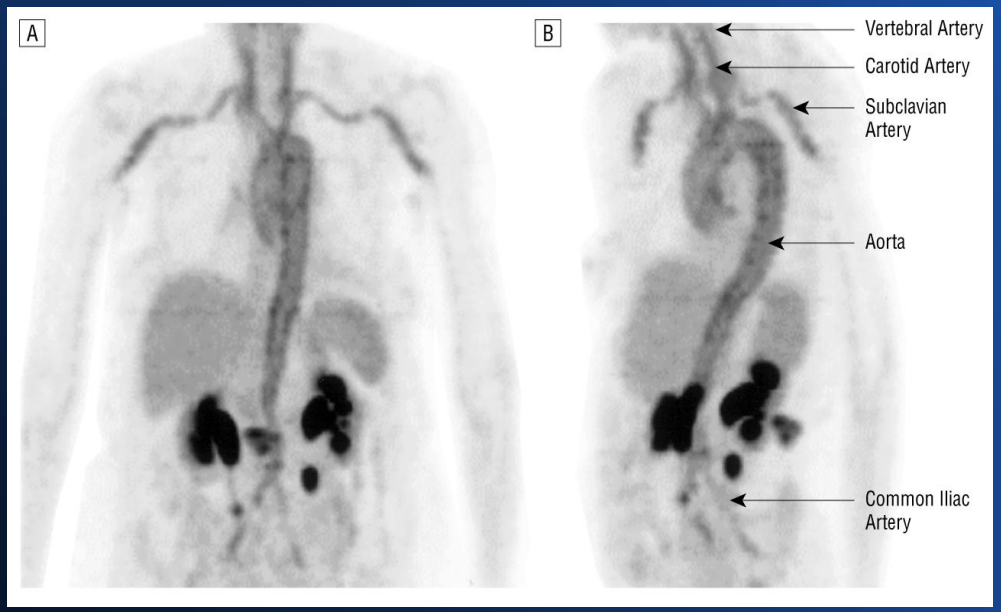


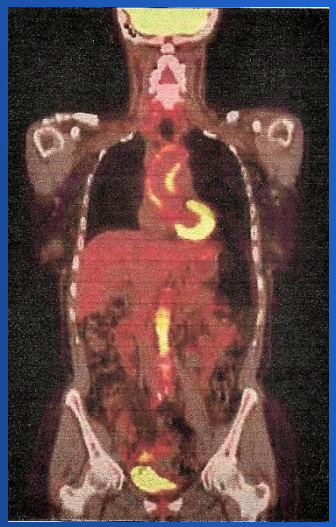
LoA

9,5 (1,2)

95%>8

R/5. CT and PET are not recommended for the assessment of inflammation of cranial arteries.





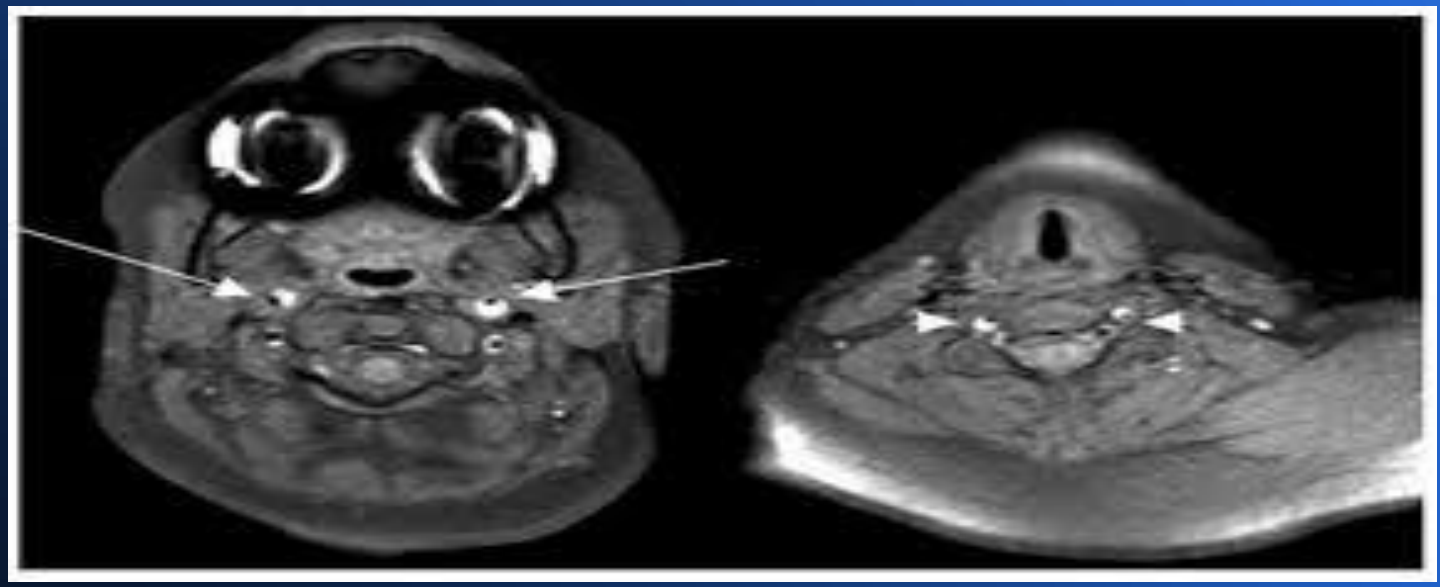
LoA

9,8 (0,6)

100%

≥8

R/6. Ultrasound, PET, MRI and CT may be used for detetion of mural inflammation and/or luminal changes in extracranial arteries to support the diagnosis of LV-GCA.



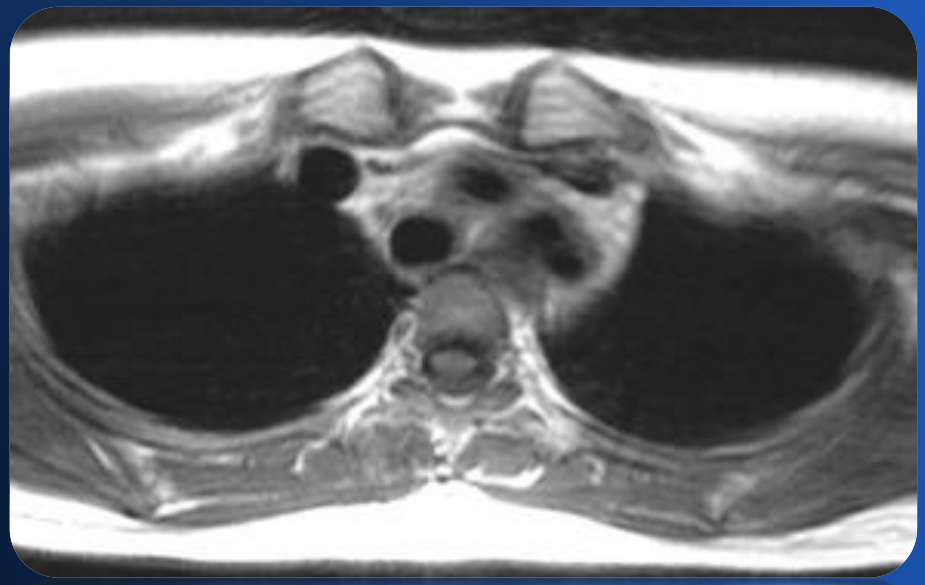
Ultrasound is of limited value for assessment of aortitis.

LoA

9,1 (1,4)

90%>8

R/7. In patients with suspected TAK, MRI to ivestigate mural inflammation and/or luminal changes should be used as the first imaging test to make a diagnosis of TAK, assuming high expertise and prompt availability of the technique.



LoA
9,4 (0,8)
100%
≥8

R/8. PET, CT and/or Ultrasound may be used as alternative imaging modalities in patients with suspected TAK.

Ultrasound is of limited value for assessment of the thoracic aorta.

LoA

9,8 (0,6)

100% ≥8

R/9. Conventional angiography is not recommended for the diagnosis of GCA or TAK as it has been superseded by the previously mentioned imaging modalities.

LoA

9,4 (0,8)

100% ≥8

R/10. In patients with LVV (GCA or TAK) in whom a flare is suspected, imaging might be helpful to confirm or exclude it.

Imaging is not routinely recommended for patients in clinical and biochemical remission.

LoA

9,3 (1,2)

95% ≥8

R/11. In patients with LVV (GCA or TAK) MRA, CTA and/or Ultrasound may be used for long-term monitoring of structural damage, particularly to detect stenosis, occlusion, dilatations and/or aneurysms.

The frequency of screening as well as the imaging method applied, should be decided on an individual basis.

R/12. Imaging examination should be done by a trained specialist using appropriate equipment, operational procedures and settings. The reliability of imaging, which has often been a concern, can be improved by specific training. Suggestions for technical and operational parameters are depicted in box 1

Recommendation

Box 1 Suggestions for technical and operational parameters on imaging modalities in large vessel vasculitis

Ultrasound

- High-quality, modern equipment is essential. Linear probes are recommended for supra-aortic arteries, sector or convex probes for ascending aorta and aortic arch and convex probes for abdominal aorta. Settings may slightly vary according to different equipment.
- The B-mode frequency should be ≥15 MHz for temporal arteries and 7–15 MHz for extracranial supra-aortic arteries. Image depth should be 10–20 mm for temporal arteries and 30–40 mm for extracranial supra-aortic arteries.
- The focus should be at the level of the artery. The B-mode gain should be adjusted to avoid anechoic appearance of the artery wall. The colour Doppler gain should be adjusted to avoid underfilling or overfilling of the vessel lumen.
- Colour Doppler mode is preferred over power Doppler mode. Tissue harmonic imaging may improve delineation of the intima-media complex.
- Doppler frequencies of 7–12 MHz and 4–8 MHz should be applied for the temporal and for the extracranial supra-aortic arteries, respectively. PRF should be 2–3.5 kHz and 3–4 kHz, respectively. The angle between sound waves and artery should be ≤60°.

CT

- Multislice CT scanner should be used.
- Collimation 0.6 mm, tube voltage 120 kV, tube current time product (mAs) determined by automatic dose modulation.
- Reconstruction slice thickness should be between 0.5 mm and 1.0 mm.
- Body-weight adapted injection of 60–120 mL of non-ionic iodinated contrast agent (≥ 350 mg/mL) using a power injector (≥ 4 mL/s).
- Arterial phase: bolus-tracking method (threshold of 100 HU); ECG triggering.
- Venous phase: 50 s after finishing the arterial phase acquisition.

MRI

Cranial MRI technique:

- 1.5 T, preferentially 3.0 T MRI scanner, minimum 8-channel head-coil.
- T1-weighted spin echo, gadolinium contrast-enhanced, fat-suppressed, high-resolution (inplane << 1 mm^2, for example, 195×260 μm, slice thickness 3 mm, repetition time (TR)/echo time (TE) 500/22 ms).
- T2-weighted turbo spin echo (TSE), non-contrast-enhanced imaging (TR/TE 9000/143 ms) is significantly less sensitive.
- Transversal slices angulated parallel to skull base.

Body MRI technique:

- 1.5 T, preferentially 3.0 T MRI scanner, minimum 8-channel head and neck coil and 16-channel body coil.
- MR angiography of aorta and major branches from carotid bifurcation to iliac arteries in coronal acquisition to include axillary and brachial arteries → detection of vessel lumen (stenosis, occlusion and aneurysm).
- T1-weighted, fat-suppressed, contrast-enhanced, black blood imaging (eg, navigated three-dimensional TSE, spatial resolution 1.2×1.3×2 mm^3, TR/TE 1000/35 ms) → assessment of mural inflammation.
- T2-weighted TSE imaging for oedema detection in mural inflammation is less sensitive and more prone to artefacts.

[^{18}F]-Fluorodeoxyglucose (FDG) positron emission tomography (PET)

- Hybrid PET with low-dose CT.
- Blood glucose levels: preferred <7 mmol/L (126 mg/dL), <10 mmol/L (180 mg/dL) acceptable.
- Interval between FDG infusion and image acquisition should be at least 60 min, preferably 90 min.
- Position of patient is supine, position of the arms should be arms down.
- Body parts to include: from top of head to at least midthigh, preferably to below the knees.
- Scoring FDG uptake: qualitative visual grading; if result is unclear, compare it with the liver background (grading 0–3).

EULAR recommendations for the management of large vessel vasculitis

C Mukhtyar,[1] L Guillevin,[2] M C Cid,[3] B Dasgupta,[4] K de Groot,[5] W Gross,[6] T Hauser,[7] B Hellmich,[8] D Jayne,[9] C G M Kallenberg,[10] P A Merkel,[11] H Raspe,[6] C Salvarani,[12] D G I Scott,[13] C Stegeman,[10] R Watts,[14] K Westman,[15] J Witter,[16] H Yazici,[17] R Luqmani,[1] for the European Vasculitis Study Group

Ann Rheum Dis 2009;**68**:318–323. doi:10.1136/ard.2008.088351

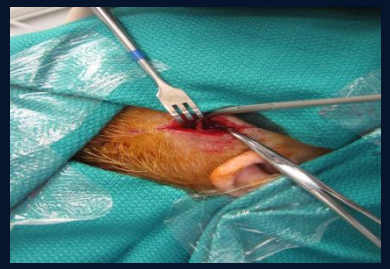


Table 5 The seven recommendations for the management of large vessel vasculitis with the level of evidence for each statement and the median strength of recommendation as per EULAR operating procedures

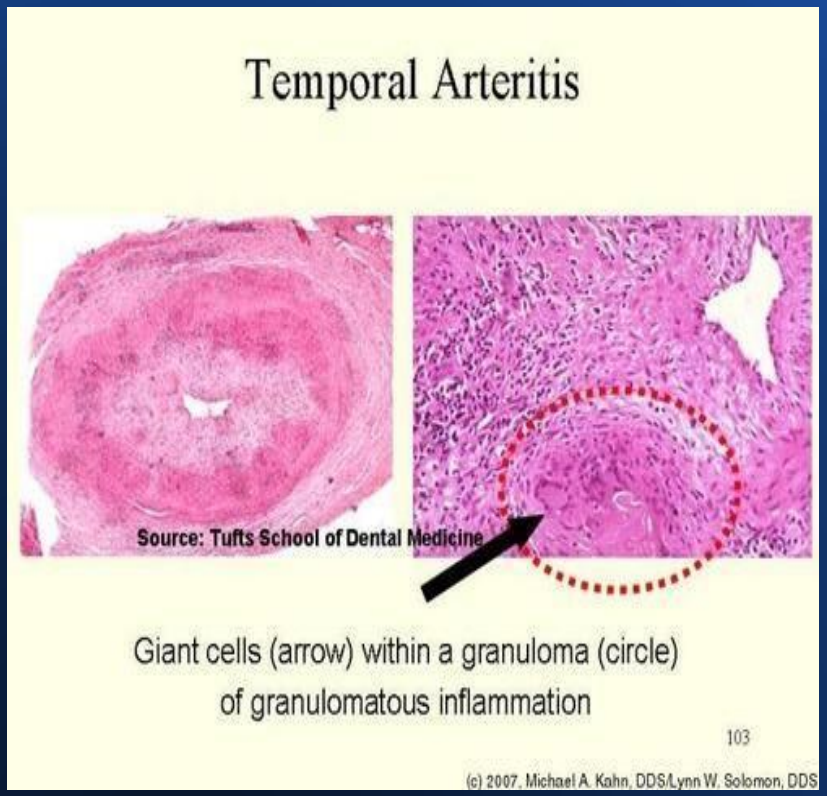
Statement	Level of evidence	Median final vote
We recommend a thorough clinical and imaging assessment of the arterial tree when a diagnosis of Takayasu arteritis is suspected	3	C
A temporal artery biopsy should be performed whenever a diagnosis of giant cell arteritis is suspected, but this should not delay the treatment; a contralateral biopsy is not routinely indicated	3	C
We recommend early initiation of high-dose glucocorticoid therapy for induction of remission in large vessel vasculitis	3	C
We recommend that an immunosuppressive agent should be considered for use in large vessel vasculitis as adjunctive therapy	1A for GCA	B for GCA
	3 for TAK	C for TAK
Monitoring of therapy for large vessel vasculitis should be clinical and supported by measurement of inflammatory markers	3	C
We recommend the use of low-dose aspirin in all patients with giant cell arteritis	3	C
Reconstructive surgery for Takayasu arteritis should be performed in the quiescent phase of disease and should be undertaken at expert centres	3	C

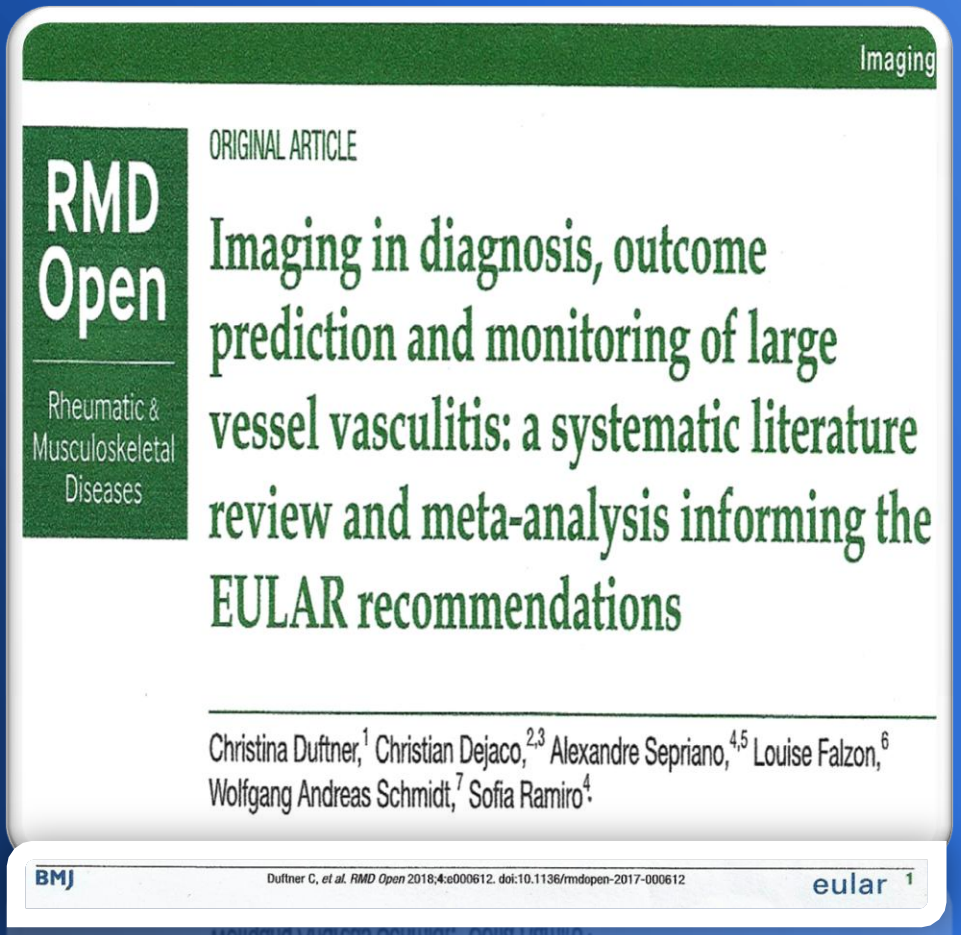
EULAR, European League Against Rheumatism; GCA, giant cell arteritis; TAK, Takayasu arteritis.

False-negative > 61% of patients compared with a clinical diagnosis

US: 77% ευαισθησία, 96% ειδικότητα

MRI: 73% -//- , 88% -//-





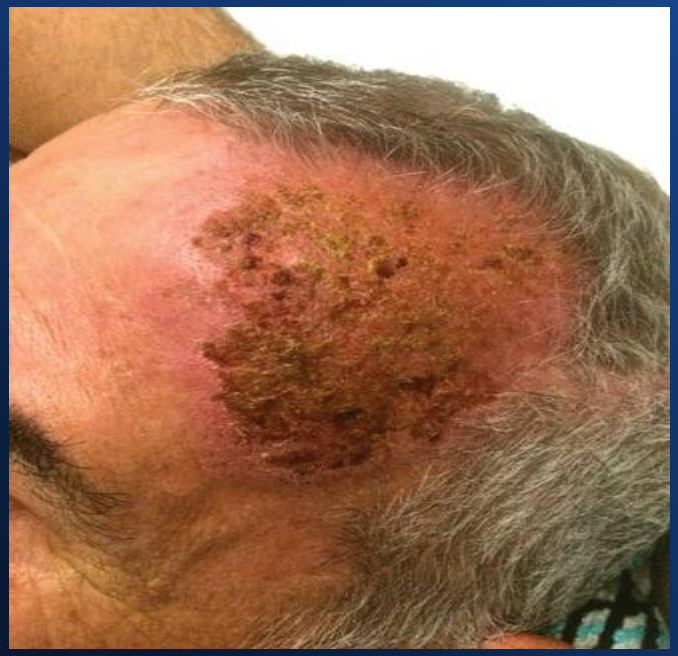
Συμπεράσματα

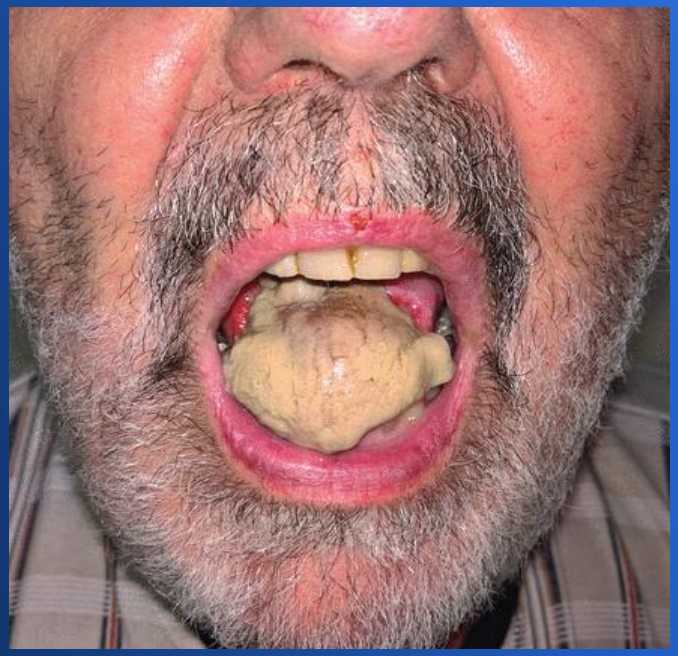
- US/MRI vs βιοψία
- Λίγες μελέτες σχετικά με την διαγνωστική ακρίβεια της απεικόνισης στις εξωκρανιακές αρτηρίες των μεγάλων αγγείων GCA και TAK
- Παρακολούθηση ενεργότητας νόσου?
- Πρόβλεψη αποτελέσματος?

Tongue and Scalp Necrosis: Simultaneous Initial Complications Revealing Giant Cell Arteritis

CHRISTELLE FONGAUFIER, AURÉLIEN GUFFROY and JEAN-CHRISTOPHE LUTZ

J Rheumatol 2018; 45:873-874 doi:10.3899/jrheum.171321





Ευχαριστώ