

The Challenges of Diagnosis



Diagnosis of GCA

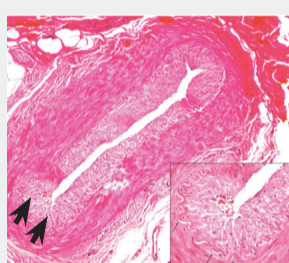
Diagnosis of GCA is based on clinical presentation, pathologic abnormalities, and/or evidence of large vessel involvement on vascular imaging^{1,2}

In a patient with suspected GCA, diagnosis can be confirmed using the following assessments^{1,2}:



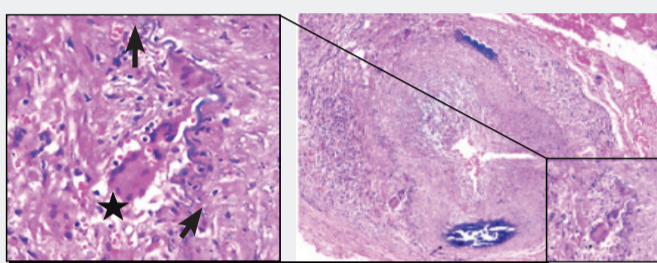
Temporal artery biopsy

A sample of the artery is examined under a microscope for the pathological signs of GCA^{1,2}



Histopathology section of a negative temporal artery biopsy showing intact lamina elasticum (short arrows) and the absence of inflammation.

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GCA-positive temporal artery biopsy shows the narrowing of the arterial lumen and infiltration of inflammatory cells and multinucleated giant cells (asterisk), the destruction of the lamina elasticum (short arrows), and age-related intramural calcification (long arrow).

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Lab tests^{1,2}

- Elevated ESR: Usually exceeds 50 mm/hr, but may be normal in 7% to 20% of patients
- Elevated CRP level: Higher sensitivity and specificity than ESR



Imaging^{1,2}

- EULAR recommends ultrasound as the first choice of imaging technique
- Temporal artery ultrasonography
- Newer imaging techniques include FDG-PET, MRI, and CT

Expertise and availability should guide diagnostic imaging choice²

CRP, C-reactive protein; CT, computed tomography; ESR, erythrocyte sedimentation rate; EULAR, European Alliance of Associations for Rheumatology; FDG-PET, ¹⁸F-fluorodeoxyglucose positron emission tomography; GCA, giant cell arteritis; MRI, magnetic resonance imaging.

1. Maz M et al. *Arth Rheumatol*. 2021;73(8):1349-1365. 2. Dejaco C et al. *Ann Rheum Dis*. 2018;77(5):636-643. 3. Aghdam KA et al. *J Ophthalmic Vis Res*. 2020;15(2):201-209.



Diagnosis of PMR

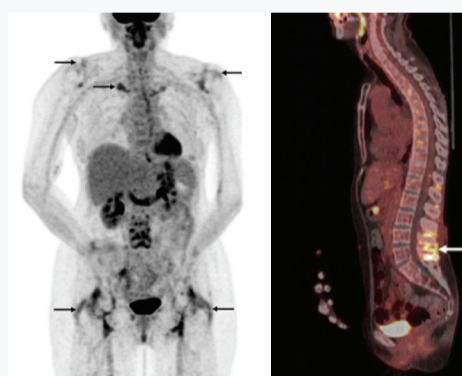
There is no gold standard for diagnosing PMR. A lack of specific clinical manifestations, serology, or other laboratory characteristics of PMR makes diagnosis challenging^{1,2}

EULAR recommends the following approach towards a diagnosis^{1,3}:



Medical history and physical exam

- History of stiffness, swelling, and/or pain of the hips, shoulders, and proximal upper and lower extremities, morning stiffness, range of motion, neurologic exam, and systemic symptoms (eg, fever, weight loss)
- Symptoms suggestive of GCA
- Rule out differential diagnoses (eg, rheumatoid arthritis or spondyloarthritis)
- Explore comorbidities that are impacted by glucocorticoid treatment



FDG-PET in a patient with PMR
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Lab tests

- Elevation of inflammatory parameters (ESR or CRP)
- Other tests to rule out differential diagnoses



Imaging

- Ultrasound recommended as the first choice imaging technique due to the nature of extra-articular soft tissue involvement
- MRI for characteristic pattern of symmetrical inflammation in the greater trochanter, acetabulum, and ischial tuberosity
- PET-CT for increased uptake in sternoclavicular joints, the shoulders, ischial tuberosities, vertebral spinous processes, and greater trochanters

CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; FDG-PET, ¹⁸F-fluorodeoxyglucose-positron emission tomography; GCA, giant cell arteritis; MRI, magnetic resonance imaging; PET-CT, positron emission tomography-computed tomography; PMR, polymyalgia rheumatica.

1. Lundberg IE et al. *J Intern Med*. 2022;292(5):717-732. 2. Huwart A et al. *Arthritis Res Ther*. 2018;20:11. 3. Dejaco C et al. *Arthritis Rheumatol*. 2015;67(10):2569-2580.