Unmasking Granulomatosis With Polyangiitis: A Diagnostic Odyssey In A Patient Initially Diagnosed With Giant Cell Arteritis

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Introduction: Systemic vasculitis poses a diagnostic challenge due to its diverse manifestations across multiple organ systems. Anchoring bias can limit a comprehensive understanding, especially when encountering cases resembling common conditions like Giant Cell Arteritis (GCA). GCA and Antineutrophil cytoplasmic antibodies (ANCAs) vasculitides, such as Granulomatosis with Polyangiitis (GPA), represent distinct entities. However, their concurrent occurrence underscores the importance of adopting a nuanced diagnostic approach. In this context, we explore a unique case of ANCA vasculitis initially presenting as GCA.

Case Presentation: A 66-year-old Middle Eastern male with essential hypertension and type 2 diabetes mellitus presented with sinus congestion, severe headache, visual disturbances, jaw pain, and muscle stiffness for 2-3 weeks. Further investigation revealed CT imaging of chronic sinusitis, an abnormal urinalysis (proteinuria and hematuria), and positive C-ANCA and PR3 antibodies. He was diagnosed with GCA based on clinical presentation, supported by elevated inflammatory markers. Bilateral temporal artery biopsies, which resulted after the patient was discharged on steroids, did not show evidence of GCA. A delayed kidney biopsy confirmed pauci-immune focal segmental crescentic glomerulonephritis, leading to a revised diagnosis of granulomatosis with polyangiitis.

Conclusion: GCA and GPA exhibit distinct profiles. While GCA involves large vessels, GPA, an ANCA-associated vasculitis, affects small to medium vessels. Like ANCA-associated vasculitides, GCA is often diagnosed through elevated C-reactive protein and erythrocyte sedimentation rates. Temporal artery biopsy should be done to confirm diagnosis, although studies have suggested the modality may not be

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highly sensitive [1]. GCA's pathogenesis primarily involves cell-mediated mechanisms, with lymphocytes, macrophages, and multinucleated Langerhans cells comprising the inflammatory infiltrate [2,3]. Distinguishing between GCA and other systemic vasculitides is crucial due to GCA's association with rapid visual loss and cerebrovascular accidents [4]. This case underscores the need for an open-minded diagnostic approach, avoiding anchoring bias and considering the dynamic nature of systemic vasculitis presentations.

Keywords: Giant Cell Arteritis, Granulomatosis with Polyangiitis, Systemic vasculitis, Anchoring Bias

References

1. Davies CG, May DJ. *The role of temporal artery biopsies in giant cell arteritis*. Ann R Coll Surg Engl, 2011 Jan. **93**(1):4-5. doi:10.1308/003588411X12851639107476

2. Weyand CM, Goronzy JJ. *Medium-and large-vessel vasculitis*. N Engl J Med, 2003. **349**:160–69.

3. Lie JT. *Histopathologic specificity of systemic vasculitis*. Rheum Dis Clin North Am, 1995. **21**:883–909.

4. Soriano A, Muratore F, Pipitone N, et al. Visual loss and other cranial ischaemic complications in giant cell arteritis. Nat Rev Rheumatol, 2017. **13**:476–84.

