E1166. The ABCs of GPA: A Primer on the Imaging Manifestations of Granulomatosis with Polyangiitis

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Background
Granulomatosis with polyangiitis (GPA) is an idiopathic, autoimmune multisystemic necrotizing vasculitis of small and medium-sized vessels with a predilection for pulmonary, sinus and renal involvement. Diagnosis is often achieved through a multimodal approach, with imaging available as a non-invasive and effective tool for the clinician. Imaging is included as a key component in the American College of Rheumatology’s classification criteria. Furthermore, confirmation of a diagnosis with a biopsy is not always possible for each patient. It behooves the radiologist to understand key imaging features of GPA, as oftentimes imaging may be the first to suggest the diagnosis of this complex entity.

Educational Goals / Teaching Points
Upon reviewing this educational exhibit, the learner will be able to summarize the fundamental pathophysiology and clinical presentation of GPA. The learner will be able to explain the utility of imaging in diagnosing GPA, describe characteristic imaging manifestations of GPA and distinguish these unique features from other clinical entities and vasculitides. Lastly, the learner will be able to recognize the role of imaging in patient diagnosis and treatment.

Key Anatomic/Physiologic Issues and Imaging Findings/Techniques
The majority of the cases highlighted in this educational exhibit will focus on the thoracic imaging manifestations of GPA, as pulmonary involvement tends to predominate in this disease process. Additional cases will provide insight on how GPA affects other organ systems along with their associated imaging manifestations. Imaging examples of mimicking pathologies will also be reviewed. The primary non-invasive imaging modality will focus on computed tomography.

Conclusion
GPA can be a challenge to diagnose as the clinical signs and symptoms may be difficult to distinguish from infections or neoplasms. Early diagnosis and prompt treatment may be organ-sparing and lifesaving for the patient. The radiologist plays a critical role for both the patient and the treatment team, from suggesting the
possibility of the diagnosis on initial imaging to monitoring their response to treatment of this complex disease.