The Journal of Rheumatology 2023:xx:xxxx
doi:10.3899/jrheum.2023-0510
First Release August 15 2023

The Journal of Rheumatology

Images in Rheumatology

Multiple Aneurysms in Granulomatosis With Polyangiitis

Eisuke Takamasu, MD, Department of Rheumatic Diseases, Tokyo Metropolitan Tama Medical Center, Fuchu; So Hattori, MD, Department of General Medicine, Mito Kyodo General Hospital, Mito; Naoto Yokogawa, MD, Department of Rheumatic Diseases, Tokyo Metropolitan Tama Medical Center, Fuchu; Kota Shimada, PhD, Department of Rheumatic Diseases, Tokyo Metropolitan Tama Medical Center, Fuchu, Japan. Address correspondence to Dr. E. Takamasu, Department of Rheumatic Diseases, Tokyo Metropolitan Tama Medical Center 2-8-29, Musashidai, Fuchu 183-8524, Japan. Email: e.t.masuo.369@gmail.com. The authors declare no conflicts of interest relevant to this article. The Tokyo Metropolitan Tama Medical Center ethics committee approved the protocol and informed consent was obtained using an opt-out approach.

Systemic multiple aneurysms are rare findings in granulomatosis with polyangiitis (GPA).[1]

A 66-year-old woman presented with generalized, subcutaneous nodules and a right leg ulcer of 1-month duration. She had a history of multiple pulmonary nodules, initially diagnosed as lymphomatoid granulomatosis, for which she had received prednisolone therapy until 8 years ago. Her serum creatinine and urinalysis findings were normal. Proteinase 3–antineutrophilic cytoplasmic antibody level was 5.7 U/mL (reference range: 0-3.5 U/mL). Computed tomography (CT) of the chest demonstrated pulmonary nodules and 3-D CT angiography (CTA) showed aneurysms in the branches of the celiac and superior mesenteric arteries. 3-D CTA of the head demonstrated anterior and middle cerebral artery aneurysms (Figure 1A). A skin biopsy of the lesions and a review of a previously performed lung biopsy found fibrinoid necrosis with vasculitis and granuloma (Figure 2). Based on these findings, GPA was diagnosed. Treatment with systemic glucocorticoids and rituximab was begun. At a 1-year follow-up visit, the patient's symptoms had improved, and the brain artery aneurysms had almost disappeared in 3-D CTA (Figure 1B). Although aneurysms of medium-sized vessels have been reported in GPA, these rarely occur in the cerebral arteries, and treatment is essential to prevent their rupture.[2]

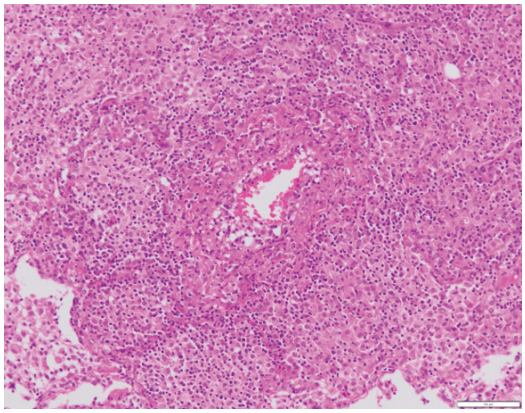

Figure 2. Left lung lower lobe biopsy demonstrating necrotizing vasculitis with fibrinoid necrosis and adjacent granuloma formation.

REFERENCES

1. Arlet JB, Le Thi Huong D, Marinho A, Cluzel P, Wechsler B, Piette JC. Arterial aneurysms in Wegener's granulomatosis: case report and literature review. Semin Arthritis Rheum 2008;37:265-8.
2. Takei H, Komaba Y, Kitamura H, et al. Aneurysmal subarachnoid hemorrhage in a patient with Wegener's granulomatosis. Clin Exp Nephrol 2004;8:274-8.

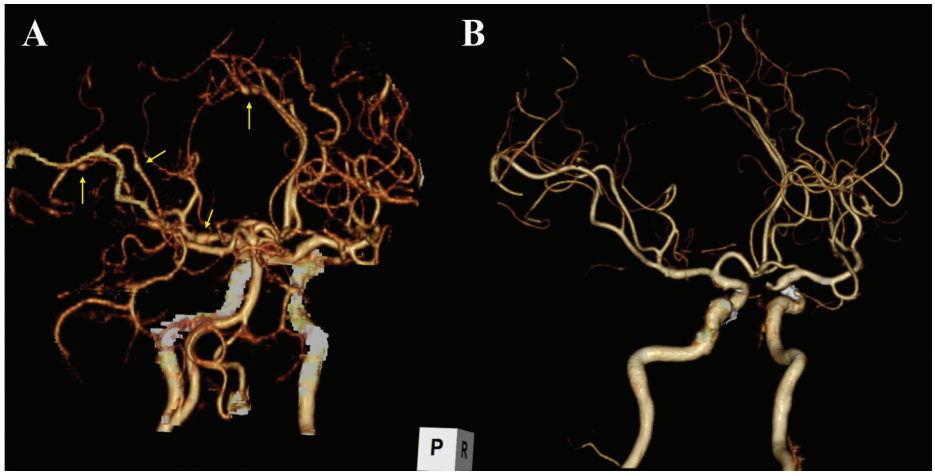

Figure 1. 3-D CTA of cerebral arteries. (A) 3-D CTA shows multiple aneurysms (arrows) in cerebral arteries before treatment. (B) The aneurysms disappeared after 1-year treatment. CTA: computed tomographic angiography; P: posterior; R: right.