Teaching NeuroImages: Eosinophilic infiltration and necrotizing vasculitis on nerve biopsy in Churg-Strauss syndrome

Charles D. Kassardjian,
MD*

Narupat Suanprasert,
MD*

E. Dayan Sandler, MD

Elliot Dimberg, MD

P. James B. Dyck, MD

Correspondence to
Dr. Dyck:
dyck.pjames@mayo.edu

Figure Hematoxylin and eosin-stained paraffin cross-sections

(A) Low power shows many nerve fascicles, a large epineurial arteriole with fibrinoid necrosis and eosinophilia (arrow), and small vessels with transmural inflammation (arrowhead). (B) High power of large arteriole shows fibrinoid necrosis (arrow) with eosinophils surrounding and invading the vessel wall (arrowhead).

A 57-year-old woman with asthma, nasal polyps, and allergies presented with acute lancinating pain and patchy weakness in the distribution of multiple upper and lower limb peripheral nerves. She had peripheral eosinophilia ($2 \times 10^9/L$). Sural nerve biopsy demonstrated nerve large arteriolar necrotizing vasculitis with eosinophils (figure), consistent with Churg-Strauss

syndrome (CSS), renamed eosinophilic granulomatosis with polyangiitis.

CSS is a systemic vasculitis involving small to medium-sized vessels, associated with asthma, chronic rhinosinusitis, and eosinophilia. Peripheral neuropathy occurs in 60%–70% of cases, and nerve biopsy may show intravascular and extravascular granulomas.¹

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*These authors contributed equally to this work.

From the Department of Neurology (C.D.K., N.S., P.J.B.D.), Mayo Clinic, Rochester, MN; the Department of Pathology (E.D.S.), Baptist Health; and the Department of Neurology (E.D.), Mayo Clinic, Jacksonville, FL.

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Eosinophilic inflammation in the nerve is rare, occurring in approximately 15% of biopsies.²

AUTHOR CONTRIBUTIONS

C.D.K. contributed to the study concept and design and drafting of the manuscript. N.S. contributed to the study concept and design and drafting of the manuscript. E.D.S. contributed to analysis and interpretation of data and critical revision of the manuscript. E.D. contributed to analysis and interpretation of data and critical revision of the manuscript. P.J.B.D. contributed to analysis and interpretation of data and critical revision of the manuscript.

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DISCLOSURE

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