Teaching NeuroImages: Colchicine-induced vacuolar myopathy

Sri Raghav Sista, MD, Maxwell Q. Nyce, MD, Sarah E. Bach, MD, and Gregory M. Blume, MD

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Correspondence

Dr. Sista
sri.s.raghavsista@
osfhealthcare.org

Figure Right deltoid muscle biopsy

Hematoxylin & eosin (A; 400×) and Gomori trichrome (B; 400×) sections show scattered vacuolated and occasional necrotic fibers. Esterase shows increased staining associated with the vacuoles and inclusions (C; 400×). ATPase at pH 4.3 demonstrates vacuoles restricted to type 1 fibers (D; 100×). Black arrows = vacuoles; white arrows = necrotic fibers.

An 86-year-old man presented with 1 year of insidiously progressive weakness that started around 2 weeks after colchicine initiation for gout. Examination noted proximal more than distal weakness with diffuse hyporeflexia. Creatine kinase was 3,172 U/mL and electrodiagnostic study was consistent with a myopathic process. Muscle biopsy (figure) showed necrotizing myopathy with vacuoles, as well as mild chronic denervation/reinnervation. Weakness improved after cessation of colchicine.

Colchicine disrupts the microtubules leading to defective movement of lysosomes and formation of autophagic vacuoles.¹ Autophagic vacuoles can also be seen with chloroquine or hydroxychloroquine therapy, acid maltase deficiency, and various other myopathies.²

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From the Department of Neurology, University of Illinois College of Medicine at Peoria.

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Appendix Authors

Name	Location	Role	Contributions
Sri Raghav Sista, MD	Peoria	Author	Study concept or design, analysis or interpretation of data, drafting/ revising the manuscript for content, including medical writing for content
Maxwell Q. Nyce, MD	Peoria	Author	Analysis or interpretation of data, revising the manuscript

Appendix *(continued)*

Name	Location	Role	Contributions
Sarah E. Bach, MD	Peoria	Author	Analysis or interpretation of data, drafting/ revising the manuscript for content, including medical writing for content
Gregory M. Blume, MD	Peoria	Author	Analysis or interpretation of data, drafting/ revising the manuscript for content, including medical writing for content

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