Magnetic resonance image of postcraniotomy retained cotton or rayon

Case illustration

A. GIANCARLO VISITEH, M.D., PAUL J. APOSTOLIDES, M.D., BRUCE DEAN, M.D., AND ROBERT F. SPETZLER, M.D.

Divisions of Neurological Surgery and Neuroradiology, Barrow Neurological Institute, Mercy Healthcare Arizona, Phoenix, Arizona

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COTTON-based and similar materials are widely used in neurosurgery to aid hemostasis. The appearance of retained intracranial cotton, which has been reported on computerized tomography, has not been described on magnetic resonance (MR) imaging of the brain. We present MR images of the retained intracranial cotton or rayon in two patients.

This 73-year-old man had undergone an occipital craniotomy for evacuation of an intraparenchymal hematoma at another institution. Eight months later he developed a worsening visual field cut. An abnormality was observed to be isointense to brain tissue on T$_1$-weighted MR images, hyperintense with a ring of low signal density on T$_2$-weighted sequences, and brightly enhancing in the occipital lobe after administration of gadolinium (Fig. 1). During surgical exploration, a cotton ball was found. Histopathological examination revealed cotton fibers surrounded by a granulomatous foreign body reaction.

This 40-year-old man had undergone resection of a left frontotemporal astrocytoma at another institution. Five years later MR imaging revealed anterior and peripheral ring enhancement in the posterior temporal regions (Fig. 2). During surgical exploration, a rayon patty with a foreign body reaction was found in the anterior temporal region. Recurrent tumor was found in the posterior temporal area.

Albeit rare, retained cotton or rayon material should be considered in the differential diagnosis of enhancing masses that appear on MR imaging at sites of previous craniotomies.

References


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Address reprint requests to: Robert F. Spetzler, M.D., c/o Neuroscience Publications, Barrow Neurological Institute, 350 West Thomas Road, Phoenix, Arizona 85013-4496. email: neuropub@mha.chw.edu.