CPT Codes for Quantitative MRI of the Brain: What It Means for Neuroradiology

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Quantitative volumetric postprocessing tools for brain MR imaging studies (QMRI) offer valuable adjunctive information through baseline analysis and longitudinal tracking of a variety of neurologic conditions, including dementia, MS, traumatic brain injury, neuro-oncology, and epilepsy. The novel information provided can assist radiologists and enhance the value of MR imaging while reducing subjectivity.

New Current Procedural Terminology (CPT) Category III codes 0865T and 0866T for quantitative analysis of brain MR examinations came into effect on January 1, 2024. These new CPT codes are vendor-neutral, and applicable to any artificial intelligence (AI) algorithm that quantitatively assesses brain volumetry and lesions. Code 0865T is used when diagnostic brain MR imaging is not performed during the same session, and code 0866T is used when diagnostic brain MR imaging is performed. These new codes represent recognition of QMRI as a clinically impactful diagnostic tool and may help establish reimbursement for comprehensive analysis of brain volumetry as well as for lesion identification, characterization, and quantification.

The new codes establish the definition of QMRI in the CPT code set, provide a mechanism for tracking, and give non-CMS payers an opportunity to establish payment pathways. Reimbursement determination for Category III codes is made by each payer and is not guaranteed.[1] Use of these new codes is an important factor in demonstrating the treatment-guiding value of quantitative MR imaging techniques to payers and may result in the codes achieving Category I status in the future.

An example of the clinical utility of QMRI is in MS, in which new or enlarging brain lesions on MR imaging are a biomarker of both disease activity and treatment response. Accurate quantitation is essential to guide treatment decisions because clinical guidelines recommend treatment change if there is progressive active disease since this is a predictor of long-term disability. Furthermore, MS is associated with brain volume loss, which correlates with cognitive impairment and disability and can be difficult to discern without quantification tools.

Likewise, QMRI is now expected to play a larger role in the dementia imaging pathway. The availability of disease-modifying therapies shifts the role of MR imaging from simply seeking "treatable" causes of cognitive impairment to assisting in the identification of patients with volumetric changes that might indicate early Alzheimer disease. Baseline MR imaging is critical for identifying patients with potential contraindications to amyloid-mobilizing therapy. For those on therapy, expanded opportunities exist for QMRI to add objective longitudinal analysis of hippocampal and entorhinal cortical volumetric parameters, which can serve as a useful subclinical marker for treatment response. Brain MR imaging surveillance is required in patients undergoing amyloid-mobilizing therapies for detection, grading, and longitudinal tracking of potential adverse effects of therapy, namely amyloid-related imaging abnormalities (ARIA), an area in which AI-fueled QMRI solutions could also play an important role in in the future.[2]

Quantitative analysis tools enhance the value of imaging examinations, while reducing reader bias and improving report standardization. Consistent and correct application of these new vendor-neutral Category III codes will demonstrate the ongoing usage rates of QMRI in clinical practice, provide opportunities to demonstrate how these tools improve patient outcomes, and one hopes, facilitate conversion to appropriate reimbursement.

Disclosure forms provided by the authors are available with the full text and PDF of this article at www.ajnr.org.

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