



**Providing Choice & Value**  
Generic CT and MRI Contrast Agents



CONTACT REP

**AJNR**

***Reply:***

J. Yuan and M. Graves

*AJNR Am J Neuroradiol* 2017, 38 (5) E37

doi: <https://doi.org/10.3174/ajnr.A5146>

<http://www.ajnr.org/content/38/5/E37>

This information is current as  
of July 22, 2025.

## REPLY:

We thank Dr J. David Spence for his interest in our Review Article, "Imaging Carotid Atherosclerosis Plaque Ulceration: Comparison of Advanced Imaging Modalities and Recent Developments."<sup>1</sup> We also thank the Editor of the *American Journal of Neuroradiology* for giving us the opportunity to respond to his comments.

The principles, usage, advantage, and related studies of 3D sonography (US) are discussed in the last paragraph of the "Sonography" section.<sup>1</sup> The application of 3D US in measuring plaque stenosis and volume is mentioned in the same paragraph. An example of comparing 3D and 2D US in depicting carotid ulceration is shown in Fig 4. In the On-line Table, we cite the study by Heliopoulos et al<sup>2</sup> (reference 36 in the article), which demonstrates that the 3D US shows the ulceration more frequently than 2D US and has slightly superior interobserver reproducibility.<sup>2</sup>

The purpose of this Review Article was to compare imaging modalities in the evaluation of carotid ulceration. We primarily reviewed studies that compared multiple methods, as sum-

marized in the On-line Table. We thank Dr Spence for bringing to our attention his valuable work with 3D US in imaging ulcerations.<sup>3,4</sup>

## REFERENCES

1. Yuan J, Usman A, Das T, et al. **Imaging carotid atherosclerosis plaque ulceration: comparison of advanced imaging modalities and recent developments.** *AJNR Am J Neuroradiol* 2016 Dec 22. [Epub ahead of print] [CrossRef Medline](#)
2. Heliopoulos J, Vadikolias K, Piperidou C, et al. **Detection of carotid artery plaque ulceration using 3-dimensional ultrasound.** *J Neuroimaging* 2011;21:126–31 [CrossRef Medline](#)
3. Madani A, Beletsky V, Tamayo A, et al. **High-risk asymptomatic carotid stenosis ulceration on 3D ultrasound vs TCD microemboli.** *Neurology* 2011;77:744–50 [CrossRef Medline](#)
4. Kuk M, Wannarong T, Beletsky V, et al. **Volume of carotid artery ulceration as a predictor of cardiovascular events.** *Stroke* 2014;45:1437–41 [CrossRef Medline](#)

 J. Yuan

 M. Graves

Department of Radiology  
University of Cambridge  
Addenbrooke's Hospital  
Cambridge, UK

<http://dx.doi.org/10.3174/ajnr.A5146>