Poster ME-8

Contrast-Enhanced MR Angiography of Supra-Aortic Arteries: Review of Current Techniques, Diagnostic Accuracy and Common Pitfalls in Steno-Occlusive Diseases

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Contrast-enhanced MR angiography (CE-MRA) gradually occupies its position as a primary evaluation tool forsteno-occlusive disease of supra-aortic cervical arteries. It has several advantages over time-of-flight (TOF) technique such as shorter imaging time, less saturation effect, and less flow- and motion-related artifacts. Diverse methods of k-space sampling, imaging sequences, and strategies for image acquisitiontiming have been introduced since its early clinical application. Especially, methods of k-space sampling and image acquisition timing are very important to achieve maximal arterial enhancement and suppress venous signal while maintaining large scan coverage and high spatial resolution. In addition, regardless of several advantages over TOF technique, it still has a tendency to overestimate the degree of stenosis in patients with carotid or vertebralartery disease. In this exhibit, we will overview the current techniques of CE-MRA with special attention to methods of k-space sampling and image acquisition timing. We will also discuss diagnostic accuracy of CE-MRA in patients with supra-aortic cervical artery stenosis and artifacts frequently misinterpreted as steno-occlusive lesion on CE-MRA.