

Diagnostic Yield of Non-Invasive Imaging Compared with DSA for the Investigation of Possible Central Nervous System Vasculitis

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Introduction

CNS vasculitis is disease that is rare and difficult to diagnose. Proposed diagnostic criteria include clinical, angiographic, and pathologic features. Catheter angiograms are used clinically to diagnose vasculitis however, their sensitivity and specificity range from 30-90%. The clinical picture compatible with CNS vasculitis has a broad differential and because of its low incidence, alternative diagnoses are frequently made. However, the sensitivity and specificity of angiography has not been compared or validated against state of the art CTA or MRA.

Methods

We retrospectively reviewed our database of diagnostic cerebral angiograms from a single endovascular surgeon (MAA) between 2006-2012. Cases that were indicated for the evaluation of possible vasculitis were selected for additional review. Clinical histories, laboratory values, and imaging studies were reviewed.

Results

A total of 19 patients were referred for the evaluation of CNS vasculitis. There were 3 angiograms that demonstrated classic features consistent with vasculitis. In those 3 patients, MRA (n = 3) or CTA (n =1), showed abnormalities described as multifocal stenosis. In 15 of the remaining 16 patients, non-invasive imaging was negative.

Conclusions

Cathether-based angiography is an invasive exam but remains the gold standard of imaging in cerebral vasculature. To diagnose one case of CNS vasculitis many patients with normal angiograms are subjected to procedural risks. In patients with normal non-invasive imaging, alternative diagnoses should be strongly sought before committing a patient to cerebral angiography to exclude vasculitis although larger studies are needed to define the sensitivity and specificity of these modalites.

Learning Objectives

By the conclusion of this session, participants should be able to: 1)Discuss the indications for DSA as it relates to vasculitis 2) Describe the diagnostic workup for cerebral vasculitis

References

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