



Abstracts

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Rebound high-pressure headache after treatment of spontaneous intracranial hypotension: MRV study

Background Rebound high-pressure headaches may complicate treatment of spontaneous intracranial hypotension (SIH), but no comprehensive study of such patients has been reported and little is known about its frequency and risk factors. We therefore studied patients undergoing treatment for SIH and performed magnetic resonance venography (MRV) to assess for cerebral venous sinus stenosis, a risk factor for idiopathic intracranial hypertension.

Methods We studied a consecutive group of patients who underwent treatment for SIH. Rebound high-pressure headache was defined as a reverse orthostatic headache responsive to acetazolamide. MRV was obtained in all patients and lateral sinus stenosis was scored according to the system published by Higgins et al., with 0 being normal and 4 signifying bilateral signal gaps.

Results The mean age of the 46 men and 67 women was 45.9 years (range 13–71 years) at the time of onset of SIH. Rebound high-pressure headache was diagnosed in 31 patients (27.4%); 14% of patients with an MRV score of 0, 24% with a score of 1, and 46% with a score of 2 or 3 ($p = 0.0092$). Also, compared to SIH patients who did not develop rebound high-pressure headaches ($n = 82$), those with rebound high-pressure headaches were younger, more often female, and more often had an extradural CSF collection on spinal imaging.

Conclusions Rebound high-pressure headache occurs in about one-fourth of patients following treatment of SIH and is more common in those with restriction of cerebral venous outflow.

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Three Territory Sign: an MRI marker of malignancy-related ischemic stroke (Trousseau syndrome)

Background Multiple acute cerebral territory infarcts of undetermined origin are typically attributed to cardioembolism, most frequently atrial fibrillation. However, the importance of 3-territory involvement in association with malignancy is under-recognized. We sought to highlight the “Three Territory Sign” (TTS) (bilateral anterior and posterior circulation acute ischemic diffusion-weighted imaging [DWI] lesions), as a radiographic marker of stroke due to malignancy.

Methods We conducted a single-center retrospective analysis of patients from January 2014 to January 2016, who suffered an acute ischemic stroke with MRI-DWI at our institution, yielding 64 patients with a known malignancy and 167 patients with atrial fibrillation, excluding patients with both to eliminate bias. All DWI images were reviewed for 3-, 2-, and 1-territory lesions. Chi-square test of proportion was used to test significance between the 2 groups.

Results We found an association between the groups (malignancy vs atrial fibrillation) and the number of territory infarcts ($p < 0.0001$). Pairwise comparisons using the Holm p value adjustment showed no difference between 1- and 2-territory patterns ($p = 0.465$). However, the TTS was 6 times more likely observed within the malignancy cohort as compared to patients with atrial fibrillation (23.4% [$n = 15$] vs 3.5% [$n = 6$]) and was different from both 1-territory ($p < 0.0001$) and 2-territory patterns ($p = 0.0032$).

Conclusion The TTS is a highly specific marker and 6 times more frequently observed in malignancy-related ischemic stroke than atrial fibrillation-related ischemic stroke. Evaluation for underlying malignancy in patients with the TTS is reasonable in patients with undetermined etiology.

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