

# Recurrent cerebrovascular events

Studies have shown an association between infarct patterns and recurrent stroke in patients with symptomatic intracranial stenosis (sICAS) but there are limited data on associations with perfusion imaging mismatch profile. We aim to determine the association between infarct pattern, optimal mismatch profile definition, and recurrent cerebrovascular events (RCVE) in patients with anterior circulation sICAS.

This is a retrospective study of consecutive patients with acutely sICAS admitted to a comprehensive stroke center over 18 month's period. Patients with sICAS underwent magnetic resonance perfusion (MRP) imaging within 24 hours from admission. Infarct patterns (internal BZ [IBZ], cortical BZ [CBZ], and core/perforator [C/P]) and RCVE within 90 days, were independently adjudicated by two reviewers. We compared mismatch profiles and recurrent event rates across infarct patterns.

Twenty-five patients met inclusion criteria; 28% had IBZ infarcts and overall RCVE rate was 32.0%. When compared to patients without IBZ infarcts, those with IBZ infarcts were more likely to have a target mismatch profile using Tmax > 6 seconds (60% vs. 6.7%, P = .007) and RCVE (62.5% vs. 11.8%, P = .01). There were no associations between CBZ and C/P infarcts and target mismatch profiles and RCVE.

IBZ infarcts may be a surrogate marker of distal perfusion status and RCVE risk. Larger multicenter, prospective, core-lab blindly adjudicated studies are needed to confirm our findings <sup>1)</sup>.

<sup>1)</sup>

Yaghi S, Grory BM, Prabhakaran S, Yeatts SD, Cutting S, Jayaraman M, Sacchetti D, Furie K, Zaidat OO, Liebeskind DS, Khatri P. Infarct Pattern, Perfusion Mismatch Thresholds, and Recurrent Cerebrovascular Events in Symptomatic Intracranial Stenosis. J Neuroimaging. 2019 May 21. doi: 10.1111/jon.12630. [Epub ahead of print] PubMed PMID: 31112323.

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