

## Reduced Regional Cerebral White Matter Perfusion in Middle-Aged Hispanic Adults

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### ABSTRACT

**Background:** Hispanics are at least 1.5 times more likely at any age past 55 years to have mild cognitive impairment and manifest dementia symptoms 7 years earlier than non-Hispanic Caucasians. Regional cerebral hypoperfusion has been implicated as an initial event in the pathogenesis of dementia. **Aim:** To compare cerebral perfusion in brain regions known to be susceptible to vascular related hypoperfusion in Hispanic and non-Hispanic Caucasian adults. **Methods:** Apparently healthy middle-aged Hispanic (n=16) and non-Hispanic Caucasian (n=16) subjects were matched across age, gender, years of education, and cognitive status. Arterial spin labeled perfusion magnetic resonance imaging (ASL-MRI) estimated cerebral blood flow in *a priori* brain regions of interest. **Results:** Mean cerebral perfusion was significantly lower in the Hispanic cohort than matched non-Hispanic Caucasian peers in the right (38±32 vs. 76±22 ml/100 g/min, p=0.005) and left centrum semiovale (39±32 vs. 72±31 ml/100 g/min, p=0.047). These differences remained significant even after controlling for blood pressure (p<0.05). **Conclusions:** Middle-aged Hispanic adults demonstrated significantly reduced cerebral perfusion to the right and left centrum semiovale compared with matched non-Hispanic Caucasian peers. Hypoperfusion in these white matter regions may contribute to cerebrovascular changes that could lead to early cognitive declines with aging in the Hispanic population.