Thursday, February 13, 2014, 1:30 pm - 3:00 pm

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Presentation Number: LB5

Publishing Title: Genomewide Association Study of Intracranial Aneurysm Identifies a New Association on Chromosome 7

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Abstract Body:

Objective: Intracranial aneurysm (IA) has a clear genetic contribution. Genomewide association studies have been performed to identify common variants contributing to IA susceptibility. Methods: We performed a genomewide association analysis in a Discovery Sample of Caucasian ancestry (2,644 IA cases; 2,548 controls). A case control analysis was performed and chromosomal regions with genomewide significance were identified. Two independent Replication Samples, one Dutch (717 cases; 3,004 controls) and the other Finnish (799 cases; 2,314 controls) were tested for association in the novel region that had been identified. Meta-analysis was performed combining results from the 3 studies in the key chromosomal region of interest.

Results: Genomewide evidence of association was detected in the Discovery Sample on chromosome 9 in the gene CDKN2BAS (rs10733376; p< 1.0 x 10-11) which was reported previously to be associated with IA. A region on chromosome 7 not previously associated with IA was also detected (rs10230207; p= 6 x 10-8). This association was replicated in the Dutch sample (p=0.01) but was not replicated in the Finnish sample (p=.25). We speculate that the lack of association in the Finnish sample is due to their unique origins and genetic architecture.
Meta analysis of the three samples was also significant ($p=8.5 \times 10^{-9}$).
Interpretation: We detected a novel region associated with IA susceptibility that was replicated
in an independent Dutch sample. This region on chromosome 7 has been previously associated
with ischemic stroke and large vessel stroke (including HDAC9) - suggesting a possible genetic
link between this stroke subtype and IA.

Author Disclosure Block:

J. Broderick: Other Research Support; Modest; Novo Nordisk. Consultant/Advisory Board;
Modest; Pfizer, Inc.. D. Lai: None. D. Koller: None. F. van't Hof: None. M. Kurki: None. C.
Anderson: None. R.D. Brown: None. E. Connolly: None. J.G. Eriksson: None. P. deBakker:
None. M. Flaherty: None. M. Fornage: None. M. von und zu Fraunberg: None. E.I. Gaal:
None. J. Hernesniemi: None. J. Huston: None. J.E. Jaaskelainen: None. R. Kivisaari:
None. D. Kleindorfer: None. N. Ko: None. H. Lehto: None. J. Mackey: None. C. Moomaw:
None. T.H. Mosley: None. M. Niemela: None. A. Palotie: None. J. Pera: None. S. Ripke:
None. G. Rouleau: None. L. Sauerbeck: None. A. Slowik: None. D. Woo: None. B.B.
Worrall: None. T. Foroud: None.