

ISGC Intracerebral Hemorrhage Newsletter

Issue 31: January 2013

Study Updates

- 2 ERICH
- 2 GERFHS
- 2 ICH GWAS
- 2 ICH Meta-Analysis
- 3 BP-related Genetic Variants
- 3 ICH Heritability

US Recruitment Centers

Massachusetts General Hospital
Cornell University Medical Center
University of Michigan
University of Virginia
Mayo Jacksonville
University of Florida
Beth Israel Deaconess Medical Center
University of Washington
University of Utah

International Recruitment Centers

Jagiellonian University Medical College
Medical University Graz
Oxford University
Vall d'Hebron
University Hospital Lund
IMIM - Hospital del Mar
Munich University
Imperial College London

Bi-Monthly ISGC ICH Newsletter:

This is the 31st issue of the ISGC ICH bi-monthly newsletter (to be released on the 15th of each month, or nearest workday). This newsletter is a tool for updating all members of the ISGC on aspects of projects relating to Intracerebral Hemorrhage.

Both Dr. Jonathan Rosand of Massachusetts General Hospital and Dr. Daniel Woo of The University of Cincinnati oversee this Newsletter. For study specific questions, new topics or feedback, please contact either Valerie Valant or Sarah Gramann who can direct your inquiry toward the investigating researcher.

Valerie Valant (MGH) vvalant@partners.org

Sarah Gramann (U Cincinnati) gramansc@ucmail.uc.edu

General Announcements:

The next ICH GWAS Investigators Meeting will occur during the 13th ISGC Meeting at the University of Virginia (April 25-26, 2013).



ERICH: Ethnic and Racial Variation in Intracerebral Hemorrhage

Contact Site: University of Cincinnati

Aims: The ERICH study is a multi-center, prospectively recruited case-control study of spontaneous intracerebral hemorrhage. Site selection for enrollment targeted minority populations of African-American and Hispanic populations with a goal of recruiting 1000 cases in each ethnic minority as well as 1000 cases among non-Hispanic Whites. Controls are identified from the same region as the cases through random-digit dialing and all subjects undergo a direct interview and cases undergo an additional chart abstraction, 3, 6 and 12 month follow-up. Centralized neuroimaging review is performed on all cases and every fifth subject has a study-MRI performed.

Status: The ERICH study has reached the halfway mark of cases with 1,500 ICH enrolled. In addition over 700 controls have now been enrolled into the study. The study is at 85.1% of the target for date enrollment and improving from month to month. The study will have its midpoint meeting in Hawaii at the International Stroke Conference.

GERFHS: Genetic and Environmental Risk Factors for Hemorrhagic Stroke

Contact Site: University of Cincinnati

Aims: The GERFHS study is a population-based, prospectively recruited case-control study of spontaneous intracerebral hemorrhage. Demographically matched controls are identified by random digit dialing and a direct interview and chart abstraction is performed on enrolled cases and a chart abstraction on all cases of ICH within the region. Aims: To perform a genome-wide association study of ICH using Affymetrix 6.0 array to identify common variants associated with ICH.

Status: The GERFHS study completed case enrollment 12/31/12 (547 cases total) and anticipates completing control enrollment by the end of February (459 controls enrolled to date). Case adjudication should also complete by that time allowing genotyping to be completed through the spring with final analysis and chart clean-up in the following year.

ICH GWAS: Intracerebral Hemorrhage Genome Wide Association Study

Contact Site: Massachusetts General Hospital and University of Cincinnati

Aims: This multi-center genome-wide association study (GWAS) is designed to identify genetic determinants of:

- 1) Risk of intracerebral hemorrhage (ICH) using a case-control design
- 2) Clinical course of ICH using a cohort design of individuals who have suffered an ICH.

Status: ICH Meta-Analysis (below) is currently tackling Aim 1.

ICH Meta-Analysis

Contact Site: Massachusetts General Hospital

Aims: To identify and uncover the common genetic determinants of risk of intracerebral hemorrhage.

Status: No update as of November 2012. MGH (GOCHA and ISGC), University of Cincinnati (GERFHS), and University of Pennsylvania (Pakistani ICH Study) have imputed their data to the latest release of 1000 genomes (1000 genomes phase I integrated variant set) using IMPUTE2 and run GWA in their respective case-control subject pool. We are currently exchanging summary results performing meta-analysis across all 3 studies.

BP-related Genetic Variants: Effect of blood pressure-related genetic variants on intracerebral hemorrhage volume and outcome

Contact Site: Massachusetts General Hospital

- Aims:**
- 1) To evaluate the effect of blood pressure-related risk alleles on the admission volumes of primary intracerebral hemorrhage
 - 2) To evaluate the effect of blood pressure-related risk alleles on the admission volumes of warfarin-related intracerebral hemorrhage
 - 3) To evaluate the effect of blood pressure-related risk alleles on clinical outcome of primary intracerebral hemorrhage
 - 4) To evaluate the effect of blood pressure-related risk alleles on clinical outcome of warfarin-related intracerebral hemorrhage

Status: Accepted for Publication.

ICH Heritability

Contact Site: Massachusetts General Hospital

- Aims:**
- 1) To estimate the heritability of ICH risk from genome-wide data in a large multi-center GWAS of ICH using the GCTA tool developed by Peter Visscher.
 - 2) To estimate the heritability of both hematoma volume and mortality.

Status: Writing responses to reviewed and re-submitting.