***Women’s Imaging of Stroke Hemodynamics Study (WISHeS): Prospective Study***

1. **Overall goal** of the proposed research is to prospectively test the hypothesis that sex differences in cerebrovascular and hemodynamic factors predict sex differences in stroke outcome

**Project Dates**: 12/01/2022 – 11/30/2024

1. **Key Study Personnel**

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1. **Scope:** The overall goal of this research is to prospectively test the hypothesis that sex differences in cerebrovascular and hemodynamic factors predict sex differences in stroke outcome. [Project materials can be found in Box folder.](https://utexas.app.box.com/folder/22341130638)

The Scientific Objectives are as follows:

* Explore the influence of cerebrovascular and hemodynamic factors on stroke outcome with regard to sex
* Create a clinical and imaging database registry for the Lone Star Stroke Research Consortium

1. **Major Deliverables/Activities:**
2. FILL IN DELIVERABLES
3. **Timeline**
4. **Overview of Proposed Studies**

**Aim 1**: Prospectively test the hypothesis that sex differences in cerebrovascular and hemodynamic factors predict sex differences in stroke outcome.

Data: Lone Star Stroke WISHeS Prospective

Inclusion Criteria: (1) ischemic stroke confirmed on imaging (DWI + scan or evidence of perfusion deficit) (2) TLKW to imaging ≤ 24h (3) imaging prior to treatment (NCCT and CT perfusion + CTA or MRI with perfusion + MRA), DSA can sub for CTA/MRAI.

Approach: Individuals admitted to the participating sites with indication of stroke will be screened and consented for participation in the study. Clinical data (demographics, medical Hx, and risk factors) as well as data on reproductive history, behavioral risk factors, parity, and hormonal exposure will be collected. Imaging data will be retrieved from scanners on site, deidentified, and stored in an imaging repository. Imaging data will be processed and read for determination of vascular territory of acute lesion, Circle of Willis variant, collateral grade, and acute ischemic and penumbral volume. Sex (adjusted for baseline clinical factors) will be tested as a predictor of stroke outcome.

Primary Outcome: modified Rankin Scale obtained at 90 days post-event

Secondary Outcomes: evaluation of relationships between variation in Circle of Willis geometry and collateral grade, hemodynamic measures (ischemic core and penumbral volume), and cognitive outcomes (LIST COGNITIVE OUTCOME MEASURE). Additional objectives include analyses of confounding effects of hormonal exposure, risk factors, and imaging method and how they relate to sex and affect stroke outcome.

Milestones

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**Aim 2**: Create a clinical and imaging database registry for the Lone Star Stroke Research Consortium

Data: Lone Star Stroke WISHeS Prospective

Approach: We will aggregate, quality control, uniformly preprocess, and share these large-scale imaging and corresponding clinical data.

Primary Outcome Measure: xxx

Secondary Outcome: xxx

Milestones

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