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## **Cytokine Registry Database of Stroke Patients (CRISP)**

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### **ABSTRACT**

Purpose/Background: The aim of the study is to identify molecular biomarkers involve in patients who present with stroke and to determine their clinical usefulness as potential biomarkers in stroke patients as compared to patients without stroke.

Materials & Methods: All patients presenting with ischemic stroke and hemorrhagic stroke at University of New Mexico Hospital (UNMH) will be screened for potential participation in this study based on following inclusion and exclusion criteria:

Inclusion criteria: male/female of ages  $\geq 18$  years, patients whose standard stroke admission order sets are obtained for clinical care.

Exclusion criteria: Patients  $<18$  year, with the history of prior stroke or any neurodegenerative or neuroinflammatory disease except multiple sclerosis (MS), pregnant women and prisoners.

Cytokines will be measured in serum at two different time points: on admission and after 24 hours of admission. The biomarkers which will measured in serum will include interleukin (IL)-1, 4, 6, 10, 17, 23, 33, 36, 37, PDGF, VEGFM, TNF-a, ANNULIN, MMP-9, 12, NFk-B, MPO and glial factors; GMF, SI000-B and GM-6001. These biomarkers will be evaluated using enzyme linked immunosorbent assay (ELISA). Twenty-five percent of the total stroke patient serum samples will be matched by controls without ischemic or hemorrhagic stroke.

The study was approved by UNM institutional review board (IRB). All sample and data collection is being done after patient or legally authorized individual sign the informed consent form. All the data is being collected on secured RedCAP database.

Results: A total of 105 patients will be enrolled during the study period. Two sets of samples; one at baseline and the other after 24 hours of admission, will collected from each enrolled patient. At present, two patients are enrolled and their samples have been collected and stored per study protocol. The study is currently under recruitment phase and it is anticipated that the enrollment will be completed within next 2 months. Biomarker analysis will be done

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sequentially as patients will be enrolled per study protocol.

Discussion/Conclusion: The CRISP study will give us understanding about the role of various cytokines and/or other biomarkers in the pathogenesis of formation of stroke. These biomarkers can potentially serve as identifiers in the clinical surveillance for acute stroke patients. The data from this study can be beneficial in the acute management of stroke patients.