PERSONALIZED MEDICINE IN STROKE

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The year 2003 was important for genetic research with the completion of the Human Genome Project after almost a decade of effort by scientists from the National Institutes of Health. The goals of the research included learning the order of the 3 billion units of DNA that go into making a human genome. There are 22,000 to 23,000 genes in the human genome. An important early objective for this extensive research was to determine specific genes that caused common diseases. The answer to this question is however complex, as it was soon realized that multiple genes interaction was common with many diseases. There are many researchers who believed that genome-based medicine, frequently called personalized medicine, will be the future of healthcare - the next logical step in a world in which more is known about human genetics, disease, and wellness than ever before. It was hypothesized that personalized medicine could reduce the costs of neurological care, bringing benefits to both patients and physicians.

The availability of routine genetic testing, new biomarkers and advanced imaging, as well as new technologies for patient-centered data collection, has expanded the potential for patient stratification into categories of responders to specific therapies. Major challenges still exist in the development of wide spread use of personalized medicine that is economically viable. My presentation will focus on the importance of using genetic and imaging techniques to monitor the effects of treatment on progression of disease in patients presenting with TIAs and stroke.