Lay Summary

BRAIN UK Ref: 18/005

An Investigation of the Clinical Utility of Genetic and Epigenetic Profiling in Glioma

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Genetic tests are becoming increasing important in how we diagnose and treat brain cancer. Currently, tests are done one at a time, using different methods, and it is not possible to do every single test that might be of relevance. New genetic technologies mean that we can now look at everyone's entire DNA sequence at a cost a little more than a current single genetic test. Having all this genetic information is helpful in diagnosing the patients' disease and what treatment would be best for them. A number of our patients have volunteered for their DNA to be sequenced in this way, as part of the 100,000 genomes project. We would like to look at this data and relate it to another big genetic test called 'genome-wide methylation analysis'. We have a rare opportunity to link all the scientific data together with very good clinical information about the patient, their disease and how they are doing now. We want to see if this combined information can be used to provide a more accurate diagnosis and maybe give better information about the long-term outcome for patients. It is also possible it could be used to guide a more personalized therapy programme for patients. Additionally, if all of the tests could be done together, it could produce a more streamline cost-effective Laboratory service, at a time when there is work pressure in all parts of the NHS.