Lay Summary

BRAIN UK Ref: 17/003

Molecular Pathology of Paediatric Gliomatosis Cerebri

Dr Chris Jones, Institute of Cancer Research

Gliomatosis cerebri is a very rare type of brain cancer with a very poor outcome. A child diagnosed with gliomatosis cerebri will survive on average 17 months. It is not a solid tumour; cancerous cells spread diffusely throughout the brain in a threadlike fashion. Lack of a solid mass makes surgical removal difficult, leaving radiotherapy and/or chemotherapy as the only options. The rarity of this disease means it is difficult to study as obtaining a wide range of samples is a challenge, especially from children.

We do know however that gliomatosis cerebri in children differs, at the molecular level, to adults and needs to be treated as such.

Since no distinct genetic mutations have so far been discovered, the World Heath Organisation 2016 update has declassified gliomatosis cerebri as a separate type of brain cancer. Nonetheless, some features of gliomatosis crebri are still unexplained and the addition of samples from BrainUK will help us shed light on it. This will be achieved by utilising various molecular analysis techniques to identify genetic mutations that set it apart from other types of brain cancer. This information will be vital in identifying drug targets to improve the survival statistics for these children.