Lay Summary

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Classification and characterisation of spinal glial tumours

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Tumours can occur in any location within the central nervous system which includes the brain and the spinal cord. They are rarer than those occurring within the brain. There are many different subtypes of spinal tumours including ependymal tumours, low-grade gliomas and high-grade gliomas. Each are treated differently and have a different prognosis. However, they are a relatively understudied groups of tumours which may contain different molecular characteristics compared to similar tumours that occur within the brain and may have different treatment requirements. We are gathering all spinal tumour cases from the NHNN neuropathology archive, irrespective of age and gender of the patients. These tumours have been diagnosed in the past by looking at a tissue section for the microscope. Here we want to study patterns of chemical tags (DNA methylation). This new technique will allow us to understand better the tumour behaviour, in particular when comparing the integrated morphology and molecular information with the clinical outcome.

We will extract nucleic acids containing genetic information (DNA and RNA) from the material available. We will profile the tumours to identify the different subclasses of tumour that occur within this group. We will be able to identify tumours which may not classify into any of the existing subgroups and may represent new tumour types. For these tumours, we will use different ways of sequencing to explore the molecular characteristics of these tumours. This will mean we can identify potential treatments that can be used in the clinic.

Abbreviations:

CNS (central nervous system), DNA (deoxyribonucleic acid), RNA (ribonucleic acid), UCL (University College London)