Lay Summary

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Contribution of soft tissue tumours to DNA methylation-based sarcoma classifier

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This study will provide tissue which will be used to build a computer based algorithm that can better diagnose tumours arising from the soft tissues, such as connective tissue, muscle, bone, and cartilage.

This algorithm will work in a similar way as that recently published for brain tumours. Here, patterns of chemical tags (DNA methylation) are detected within the tumour.
This new technique will enable doctors to place patients more precisely into specific risk groups and make more accurate therapy decisions.

Our centre has previously contributed to the development of the brain tumour classifier– one of only two centres in the UK to use it. Patients treated at University College London Hospital (UCLH)/National Hospital for Neurology and Neurosurgery (NHNN), have already benefitted from this novel technology and the clinical team (pathologists) have contributed to identifying DNA methylation patterns in rare brain tumour classes.

In the present study we want to contribute again to this novel and exciting development, which will significantly improve the way we diagnose soft tissue tumours. Soft tissue tumours are frequently found in the vicinity of the spine, and are operated by our spinal surgeons.

Currently clinicians make a diagnosis by looking at a tumour tissue under a microscope but cannot always identify the correct diagnostic category patients should be placed into. In about a quarter of the brain tumour cases the algorithm has made a different diagnosis, which has significantly changed the treatment of some of our patients. It is predicted that also sarcoma classifier will significantly improve the clinical management of patients with soft tissue tumours.