BBC NEWS

DNA clue to child brain tumours

Scientists at Cambridge University have made a major breakthrough researching brain tumours in children.

For the first time a sequence of DNA present in around two-thirds of the most common tumour has been pinpointed.

Pilocytic astrocytomas is diagnosed in 145 children from five to 19 every year, with nearly 40 cases untreatable.

As little is known about the causes and genetics of brain tumours, it is hoped the findings could lead to better treatment.

Professor Peter Collins, who led the research at Cambridge University, carried out genetic scans on 44 pilocytic astrocytoma and found a DNA sequence rearranged on a chromosome in the majority of the samples.

The rearrangement creates a fusion gene, a hybrid created from two separate genes.

It is the first time fusion activity has been associated with a brain tumour.

Professor Collins said: "If we can diagnose exactly which type of brain tumour a child has as early as possible, the tumour is more likely to be treated successfully.

"We also hope the findings will mean it is possible to create therapies in the future that block the activity of the fusion gene and halt the growth of tumour cells."

Dr Lesley Walker from Cancer Research UK said: "Any discovery that adds to our understanding of the pathways that cause these tumours to form is quite exciting news.

"We think this important finding will be vital in guiding our future research."

Cancer Research UK and Samantha Dickson Brain Tumour Trust funded the project.

Paul Carbury, chief executive of the Samantha Dickson Brain Tumour Trust, said a major breakthrough had been achieved with a "world class piece of research".

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