

Can children have strokes?

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Childhood stroke is at least as common as brain tumours in children and may be as common as all childhood cancer but the condition is under-recognised by both the public and the medical profession. A new study hopes to address some of the large gaps in the understanding of this condition.

The study, known as the 'Study of Outcome of Childhood Stroke' (SOCS) is a research project co-ordinated by researchers at the University of Bristol's Institute of Child Life and Health and funded by the Stroke Association. The aim of the study is to investigate the epidemiology of stroke in children and to research children's outcome following stroke.

This will be the first time the outcome from child stroke has been studied in a systematic and detailed way across a very large population. The study will cover half the UK population (approximately 6.3 million children are in the study area), with paediatric neurologists and paediatricians, physiotherapists and radiologists across the country collaborating on the study.

In children the average time taken from the onset of symptoms to presentation to a medical professional is 5.5 hours and the time from presentation to scan is 6.6 hours. This means the vast majority of children are diagnosed too late to benefit from treatments that can potentially be life saving or which may significantly improve the outcome.

The researchers hope to be informed of all children who have had a stroke in the study area from 1 July 2008 until 30 June 2009. They will collect clinical information from the medical notes and brain scans and then visit children at home one year after the stroke. At that time they will conduct assessments and administer questionnaires that will assess the children's motor and sensory skills, cognitive abilities, behaviour, quality of life, and activity limitation. They will also find out about any recurrences of stroke. The researchers will then be able to relate the outcome to demographic and clinical factors.

Dr Finbar O'Callaghan, Senior Clinical Lecturer in the Division of Child Health at Bristol University and chief investigator for the study, said: "Stroke in children is not as rare as many people may believe. The incidence is not fully known but at least one child per day has a stroke in the UK and it may be as high as five per day.

"One of the main reasons we don't know the exact number of children having strokes is that no national registration system exists as it does for childhood cancer. There is a striking lack of public and medical awareness of stroke in children and this manifests itself in the amount of funding available for research. Childhood stroke may be as common as childhood cancer, and in many ways equally devastating to families, but in the last year in the UK the charitable income for childhood cancer was £224 million versus £3 million for childhood stroke."

Stroke is a serious condition in children. Between 1979 and 2000 it was the cause of death for nearly 1,500 children. However, besides mortality data there is very little information regarding how stroke affects children. There have only been a few small studies in specialised centres that have found that after stroke children are at increased risk of many kinds of problems such as difficulties with motor skills, learning, memory, attention, emotions, and peer relationships as well as complications such as epilepsy and psychiatric disorders.

The lack of knowledge in this area means that paediatric neurologists and paediatricians are not able to give parents accurate predictions about prognosis, they do not know where to target scarce rehabilitation resources, e.g. should they focus on physiotherapy or psychological therapies, and they do not know which children are at most risk of complications that could benefit from possible acute treatments that are now being used in adults, such as thrombolysis - "clot busting" drugs.

Information for the public regarding the study including full participant information sheets, can be found on the study's website, www.childstroke.org.uk

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