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CSV. Cerebral Small Vessel Disease

NIHR BioResource – Rare Diseases study project

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Summary

Disease of the small perforating arteries within the brain (cerebral small vessel disease, cSVD) causes about a quarter of all strokes (lacunar stroke), is the major pathology underlying vascular dementia and vascular cognitive decline and is also a contributor to intracerebral haemorrhage. Most cases are sporadic, often on a background of hypertension and other vascular risk factors, but it can also be caused by monogenic conditions. cSVD is the most common stroke disorder caused by single gene disorders. The most common of these is cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) which has been estimated to have a prevalence of 2-4 per 100 000. Prominent features in addition to stroke and dementia include migraine usually with aura, and encephalopathy. More recently other single gene disorders causing cSVD have been described including cerebral autosomal recessive arteriopathy with subcortical infarcts and leukoencephalopathy (CARASIL), due to HTRA1 mutations, heterozygous HTRA1 cSVD, and COL4A1/2 disease. In addition, there are a number of families reported with apparently autosomal dominant cSVD in whom no underlying gene mutation has yet been found.

Recruitment Criteria

Inclusion

An already identified pathogenic variant in a recognised cause of monogenic cSVD such as CADASIL, CARASIL, autosomal dominant HTRA1 and COL4A1/2

Suspected monogenic cSVD as indicated by:

a) Stroke or vascular dementia in one family member at age <60 years.
b) MRI scan consistent with cSVD.

c) A first degree relative (parent, sibling or offspring) with either a recognised monogenic form of cSVD, or suspected familial cSVD.
d) Pattern of inheritance consistent with a monogenic disease

A first degree relative (parent, sibling or offspring) with either a recognised monogenic form of cSVD, or suspected familial cSVD.

Exclusion

None.