London Ataxia Centre – Research Projects

The London Ataxia Centre is currently recruiting for a number of trials, including the European Integrated Project on Spinocerebellar Ataxia (EUROSCA) and the European Friedreich's Ataxia Consortium for Translational Studies (EFACTS). More information about these studies can be found below.

EFACTS - European Friedreich's Ataxia Consortium for Translational Studies

EFACTS is a longitudinal study that will gather vital information to create the largest European FRDA patient database, alongside an integrated clinical and natural history database; this will be linked to a biological samples repository. It also aims to define a panel of clinical assessment tools.

This project proposal has the following scientific and technological objectives:

- Comprehensively populate a European FRDA database, linked to a bio bank
  Define a panel of clinical assessment tools
- Build on the knowledge base of frataxin structure and function
- Build on the knowledge base of the pathogenic cascade
- Build on the knowledge base of epigenetic mechanisms of frataxin silencing
- Develop new cellular and animal models for the study of FRDA
- Identify FRDA biomarkers
- Identify genetic modifiers of FRDA
- Develop therapeutics for FRDA

Website: www.e-facts.eu/

ESMI: European Spinocerebellar Ataxia Type 3/Machado-Joseph Disease Initiative

Spinocerebellar ataxia type 3/Machado-Joseph disease (SCA3) is the most common familial ataxia. Although the gene mutation causing SCA3 is known, there is currently no treatment. However, as there is an advanced understanding of the mechanisms underlying SCA3, new therapeutic approaches are being developed. To enable drug trials, the availability of large cohorts of people who carry the mutation is essential.

ESMI will bring together 8 cohorts comprising more than 800 subjects. Researchers will integrate the existing data in a common database, and apply standardised and quality-controlled assessment protocols.

The aims of the study are to:

- Develop disease markers, which will allow for proof of concept studies with a biomarker outcome that require smaller numbers of participants than conventional trials
- Bring together existing cohorts to facilitate the enrolment of participants in drug trials.
- Improve data on the long-term evolution of the disease to assist in the design of future clinical trials in SCA3.
- Improve the clinical management of ataxia

EUROSCA - European Integrated Project on the Spinocerebellar Ataxias

This is a clinical and genetic study of the autosomal dominant spinocerebellar ataxias. These are a group of disorders characterised by a progressive unsteadiness which may also be associated with other neurological problems. In the majority of cases the disease begins in adulthood. At present no treatment is available. For 25 different forms of autosomal dominant ataxia we know now either the genes or the chromosomal location for the genes that cause these diseases. However in many patients the genetic cause remains unknown.

The aim of this study will be a European collaboration to:

- Establish a database containing clinical and genetic information from ataxic patients.
- This will be the largest registry of patients with such rare diseases.
- To recruit new families with ataxia of unknown cause in order to find new gene/s responsible for the disease in those families

Website: www.eurosca.org

Detecting retinal changes in autosomal recessive spastic of Charlevoix-Saguenay (ARSACS) and other ataxias using optical coherence tomography

Autosomal recessive spastic ataxia of Charlevoix-Saguenay (ARSACS) is a rare inherited neurodegenerative disorder first described and most extensively investigated within a small founder population inhabiting the Charlevoix and Saguenay-Lac- St-Jean regions of north-eastern Quebec in Canada. ARSACS has been described in other populations (Japanese, Turkish, Tunisian, Italian, Spanish and British) but the frequency in the UK is currently unknown.

The disorder is characterised by early-onset cerebellar ataxia (incoordination) with spasticity (limb stiffness), peripheral neuropathy (problems with the nerves in the arms and legs), dysarthria (slurred speech) and nystagmus (abnormal eye movements).

It has been discovered that a characteristic feature of the Canadian ARSACS cases is a change in the retinal nerve fibre layer at the back of the eye which can be detected by a technique called optical coherence tomography (OCT). This technique is quick, cheap, non-invasive, painless and readily available in most eye clinics. By contrast, the genetic test for ARSACS is expensive and not readily available in most hospitals in this country.

The researchers have studied a family with a genetic diagnosis of ARSACS in which some of the unaffected carriers also had changes seen on OCT. It is therefore vital to know whether these retinal changes are a reliable diagnostic indicator amongst the population of people who are routinely assessed in an ataxia clinic. It is important to study patients with ARSACS and the unaffected family members of patients with ARSACS who might be carriers of the gene. They will perform the same test on patients with other (usually genetic) types of ataxia (such as Friedreich's ataxia or spinocerebellar ataxia) in order to test the sensitivity of OCT in detecting cases of ARSACS.

In addition to OCT, the study involves a neurological examination, an MRI scan of the head and neck, and/or a test of memory and thinking called neuropsychometry

The aims of this study are:

- To investigate whether OCT could be used as a screening test to detect people with ARSACS, to decide whether to send for the formal genetic test.
- To better understand the clinical features of people with ARSACS, leading to more accurate diagnosis.
- To study the retinal anatomy of patients with other causes of ataxia using OCT, and to link these to the features seen on routine ophthalmological and neurological examination.

If you are interested in taking part in any of the studies listed here, contact:

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