

Service Evaluation and Quality Improvement Project for patients with FCS/MCS

This project has been defined a service evaluation/quality improvement project by Manchester University NHS Foundation Trust research management team using the Health Research Authority's guidelines, and as this is not defined as research, the project does not therefore need research governance review or approval by the Health Research Authority in the United Kingdom. Many European Centres have concurred with this definition. We advise each Centre to seek confirmation from their own Research/Clinical Governance teams.

We are now ready to receive data. All data collected will be anonymised at source, please keep your own confidential record of the participant codes you have used for this data collection.

The project

All centres who have genetically confirmed FCS cases or patients genetically tested are invited to take part.

Familial Chylomicronaemia Syndrome (FCS) is a rare monogenic disorder resulting from recessive mutations in the genes coding lipoprotein lipase (*LPL*) or its modulator proteins. Aside from genetic testing, currently the diagnosis of FCS is based on a scoring system [Moulin et al, *Atherosclerosis* 2018; 275:265-272]. It is recognised that clinical diagnosis of FCS may be inconsistent due to phenotype overlaps between FCS and multifactorial chylomicronaemia syndrome (MCS).

Aims:

1. Validate the clinical scoring system in a larger international cohort.
2. Clinical use of the scoring system in different populations and centres.
3. Help with better understanding of FCS's natural history, prioritising and rationalising the use health care system resources.
4. Type and frequency of mutations to assess and plan the most cost effective use of health care systems resources in relation to high cost investigations.

We are collecting anonymised data (please see the attached form) of the following cohorts from different countries:

1. Confirmed Familial Chylomicronaemia Syndrome (FCS) with genetic testing (homozygous, compound and double heterozygous)
2. Genetic testing showed one pathogenic mutation/variance only (heterozygous)
3. Severe hypertriglyceridaemia with FCS phenotype caused by antibodies (eg *LPL*, apoC2,...) or any other potential novel mechanism.
4. Data for patients who are phenotypically FCS but have novel mutations (heterozygous or homozygous) in genes, other than the five genes recognised, for example *CREB3L3*....
5. Data for patients who are phenotypically FCS but genetic test did not show a pathogenic mutation/variance in the 5 genes related to FCS
6. Patients diagnosed as MCS (genetic test performed but no mutation or no genetic testing performed).

We aim to look at the type and frequency of mutation in this patient cohort with a view to help with understanding the natural history of this disease and to use healthcare resources more efficiently and effectively. We will also use the information collected to validate the current FCS scoring system in a larger cohort of patients.

Data will be collected anonymously using a standard data collection form (attached).

Please complete a data collection form for each patient and send these via email to Dr See Kwok

see.kwok@mft.nhs.uk

The project is conceived by Manchester team, approved locally as a Service Evaluation/Quality Improvement project and endorsed HEART UK. All colleagues who contribute data will be acknowledged in future abstracts/papers.

Best wishes

Dr Handrean Soran MBChB MSc MD FRCP
Consultant Physician and Endocrinologist, Manchester
University NHS Trust, Manchester, UK.
Handrean.Soran@mft.nhs.uk.