

## GenOMICC – Paediatric Hepatitis Outbreak

### Background in brief

The WHO has reported over 300 cases of paediatric hepatitis in 31 countries covering a very wide geographical area, with no links identified between cases, suggesting a widespread exposure to the causal agent. 11 of these children have required Liver Transplants.

Patients who develop life-threatening illness following infection with usually innocuous pathogens, such as influenza are genetically different from the rest of the population.

Understanding the genetic mechanisms of susceptibility may yield new therapeutic targets that can be used to make susceptible patients more like individuals who are resistant to, or tolerant of, specific pathogens.

### Aims

1. To identify host genetic variants associated with susceptibility to, and mortality from, life-threatening infection and sterile injury.
2. To prioritise therapeutic targets with which to modulate the host response to injury and infection in patients with life-threatening disease.

**Objectives** are to obtain a single DNA sample from patients with:

1. Susceptibility to severe disease;
2. *Susceptibility to specific outbreaks and exposures of public health interest;*
3. Susceptibility to death following onset of severe illness due to specific syndromes, and;
4. Susceptibility to death from quantifiable sterile injury.

And to obtain DNA samples, where possible, from appropriate comparison or control groups.

### Recruitment

Can be done prospectively or retrospectively.

### Inclusion Criteria

**Critical illness.** Patients will be recruited who:

- Are deemed, in the view of the treating physician, to require continuous cardiovascular or respiratory monitoring or invasive mechanical ventilation,
  - AND provide appropriate consent or assent
  - ... see protocol for full list of inclusion criteria
- *Outbreaks or exposures of public health interest. Patients from the groups specified may be recruited even if they are not admitted to critical care. (See protocol for full eligibility criteria)*

### Consent/Assent

Can be given by the patient, or if too young or unwell can be given by a parent/guardian, relative or consultee.

## **Controls**

Patients who have evidence of exposure to a relevant pathogen but who have experienced only mild or no symptoms, will be able to volunteer to take part in the study as a 'Control'. Age and sex-matched 1:1. Parents are also suitable controls for this specific outbreak.

## **Sample collection**

One blood or saliva sample will be collected from each patient and each age and sex-matched control. No more than 0.6ml/kg of blood will be collected per patient, for example a 4-10kg child would give 2mls of blood.

These samples are then either genotyped locally, or shipped to the Western General Hospital, Edinburgh.

## **Data collection**

Clinical data and personal information will be collected via an eCRF.

## **For further information please contact**

Weblink [Paediatric Hepatitis | GenOMICC](#)

Email [Genomicc-International@roslin.ed.ac.uk](mailto:Genomicc-International@roslin.ed.ac.uk)