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SURVEILLANCE OF CHILDHOOD ACUTE RHEUMATIC FEVER (SCARF)

(Short Study Name: Acute Rheumatic Fever)

Abstract

Acute rheumatic fever (ARF) is a well-recognised disease entity with clear diagnostic criteria.[1] It occurs as a result of the body's reaction to group A streptococcal infection. It is important to recognise as repeated infections are thought to impact on the development of chronic cardiac complications. [2] Over the last 50 years its incidence in developed countries has decreased but it remains an important source of morbidity and mortality in the developing world. [3-4] There is a lack of data from developed countries but mounting evidence suggests that it may be increasing in incidence again with outbreaks in America in the 1980s[5] and data from Italy[6] and Australasia.[7]

Surveillance of Childhood Acute Rheumatic Fever (SCARF) is an epidemiological study to identify all cases of ARF presenting in children aged 0-16 over a year period. The study team aim to explore how ARF affects children and young people ≤16 years of age in the UK and ROI. The study team hope to examine the pattern of illness ARF produces and to see if it differs from the pattern of illness seen in developing countries or in the UK and ROI, identify demographic trends, mode of presentation, diagnostic criteria met, treatment and outcome.

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Background

This study aims to find out more about ARF in children aged 16 years or below in the UK and ROI. This is a condition where the body reacts to the group A streptococcal infection. It usually happens in children or young adults. This can cause immediate problems such as a rash, abnormal movements, joint swelling and pain and effects on the heart. It can also cause problems with the heart later in life, particularly affecting the functioning of the heart valves. This illness was very common before we had antibiotics to fight this infection. It is still present today but is now rarely seen. The aim of our study is to see how common it is now and describe the pattern of problems it causes.

Coverage

United Kingdom and the Republic of Ireland

Duration

May 2015 – May 2016 (13 months surveillance).

Research Questions

The primary objectives of the study are to:

- Quantify incidence of ARF in children in the UK and ROI

The secondary aims of the study are to:

- Characterise patients presenting with ARF including age, sex, ethnicity, country of birth and geographic location.
- Describe the clinical features with respect to mode of presentation and diagnostic criteria.
- Describe microbiological features in terms of positive throat swabs ASOT levels antiDNAse B levels.
- Describe the cardiac features and the presence of clinically undetected heart involvement identified by echocardiography.
- Ascertain family history of autoimmune diseases or rheumatic fever
- Highlight management strategies of acute illness.
- Examine immediate outcome with respect to morbidity and mortality.
- Describe the course of the illness within the first year and its management especially looking at resolution of symptoms within the first year and further medical or surgical treatment during this time.

Case definition

A confirmed ARF diagnosis requires:

1. Evidence of recent group A streptococcal infection **AND**
2. 2 major **OR** 1 major and 2 minor manifestations

Major Manifestations

- Carditis: (echocardiographic or clinically detected)
- Polyarthritis (Inflammation of 2 or more joints)
- Chorea
- Erythema marginatum
- Subcutaneous nodules

Minor Manifestations

- Clinical finding of arthralgia
- Clinical finding of fever (≥38ºc)
- Lab finding of increased CRP (>20mg/L)
- Lab finding of increased ESR (>20mm/hr)
- Prolonged PR interval

OR *Chorea*: this may present late and without lab / other clinical features of ARF and is enough alone to diagnose ARF if no other cause is found.

Reporting instructions

Please report any cases of children or young people ≤16 years of age with **EITHER** a confirmed **OR** suspected new diagnosis of acute rheumatic fever seen in the past month who meets the following case definition in the UK or the ROI.

Methods

Paediatricians reporting a case of ARF through the orange card system will be sent a questionnaire which explores epidemiological and clinical information about the affected child.

Ethics approval

This study has been approved by NRES Committee – West Midlands - Solihull (REC reference: 12/WM/0412; IRAS project ID: 128479) and has been granted Section 251 HRA-CAG permission (CAG Reference: 13/WM/0412).

Support group

British Heart Foundation

Funding

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