

ACUTE RHEUMATIC FEVER

Introduction

An inflammatory disease of childhood resulting from untreated *Streptococcus pyogenes* (group A streptococcus) pharyngeal infections.
Peak incidence 5 to 15 years; more common in females.

Table 1. Diagnostic criteria for Acute Rheumatic Fever

Major Criteria	Minor Criteria	Investigations
carditis ¹ polyarthrits, polyarthralgia or aseptic monoarthrits chorea erythema marginatum subcutaneous nodules	fever (temperature > 38 °C) ESR > 30 mm/h or CRP > 30 mg/L prolonged PR interval	FBC - anaemia, leucocytosis ESR and CRP elevated. Throat swab, ASOT Blood culture CXR, ECG. Echocardiogram
Making the Diagnosis		
initial episode of ARF	Recurrent attack of ARF (known past ARF or RHD)	1. Evidence of carditis : - cardiomegaly - cardiac failure - pericarditis - tachycardia out of proportion to fever, sleep - pathological or changing murmurs
2 major criteria or 1 major + 2 minor criteria	2 major criteria or 1 major + 2 minor criteria or 3 minor criteria	
PLUS evidence of a preceding group A streptococcal infection		

ARF, Acute Rheumatic Fever; RHD, Rheumatic Heart Disease
Source: Australian 2005 Guidelines

Treatment

Aim to suppress inflammatory response so as to minimize cardiac damage, provide symptomatic relief and eradicate pharyngeal streptococcal infection

- bed rest. Restrict activity until acute phase reactants return to normal
- anti-streptococcal therapy
 - IV C. Penicillin 50 000U/kg/dose 6H
 - or oral Penicillin V 250 mg 6H (<30kg), 500 mg 6H (>30kg) for 10 days
 - oral Erythromycin for 10 days if allergic to penicillin.
- anti-inflammatory therapy
 - *mild / no carditis*:
oral Aspirin 80-100 mg/kg/day in 4 doses for 2-4 weeks, taper over 4 weeks
 - *pericarditis, or moderate to severe carditis*:
oral Prednisolone 2 mg/kg/day in 2 divided doses for 2 - 4 weeks, taper with addition of aspirin as above.
- anti-failure medications
 - diuretics, ACE inhibitors, digoxin (to be used with caution).

Consider early referral to paediatric cardiologist if heart failure persists or worsens during the acute phase despite aggressive medical therapy. Surgery may be indicated.

Secondary Prophylaxis of Rheumatic Fever

- IM Benzathine Penicillin 0.6 mega units (<30 kg)
or 1.2 mega units (>30 kg) every 3 to 4 weeks
- oral Penicillin V 250 mg twice daily
- oral Erythromycin 250 mg twice daily if allergic to Penicillin

Duration of prophylaxis

- until age 21 years or 5 years after last attack of ARF whichever was longer
- lifelong for patients with carditis and valvular involvement.