RHEUMATIC FEVER

REPORTING INFORMATION
- Class A(3)
- Report by the end of the work week
- Confidential Case Report card (3812.11, rev. 12/81) or Telephone

AGENT
Delayed reaction to inadequately treated Group A beta-hemolytic streptococcal (GAS) infection of the upper respiratory tract.

CASE DEFINITION

Clinical description

An inflammatory illness that occurs as a delayed sequela of Group A streptococcal (GAS) infection

Major criteria: carditis, polyarthritis, chorea, subcutaneous nodules, and erythema marginatum

Minor criteria: a) previous rheumatic fever or rheumatic heart disease; b) arthralgia; c) fever; d) elevated erythrocyte sedimentation rate , positive C-reactive protein, or leukocytosis; and e) prolonged PR interval on an electrocardiogram

Laboratory criteria for diagnosis

No specific laboratory test exists for the diagnosis of rheumatic fever.

Case classification

Confirmed: An illness characterized by
- a) two major criteria or one major and two minor criteria (as described in Clinical Description), and
- b) supporting evidence of preceding group A streptococcal infection.

Comments

Supporting evidence to confirm streptococcal infection includes increased antistreptolysin-O or other streptococcal antibodies, throat culture positive for group A streptococcus, or recent scarlet fever. The absence of supporting evidence of preceding streptococcal infection should make diagnosis doubtful, except in Sydenham chorea or low-grade carditis where rheumatic fever is first discovered after a long latent period from the antecedent infection.

SIGNS AND SYMPTOMS
Onset can be sudden, occurring one to five symptom-free weeks after streptococcal sore throat or scarlet fever. Early symptoms usually include: fever, joint pain, nose bleeds, abdominal pain, and vomiting.

DIAGNOSIS
See Case Definition.

Sources other than the MMWR Case Definitions for Infectious Conditions under Public Health Surveillance use different terminology when describing clinical diagnosis of rheumatic fever. These are:

Major manifestations: carditis, polyarthritis, chorea, subcutaneous nodules and erythema marginatum

Minor manifestations:

Clinical findings - arthralgia, fever

Laboratory findings - elevated acute phase reactants (ESR, C-reactive protein), prolonged P-R interval in EKG

Supporting evidence of antecedent group A streptococcal infection - positive throat culture, elevated or rising streptococcal antibody titer

EPIDEMIOLOGY

Source

Individuals who have had streptococcal pharyngitis. Fomites and household pets have been rarely implicated as vectors of streptococcal infection.

Mode of Transmission

Transmission of GAS occurs through close contact with an infected individual or carrier via the respiratory route.

Occurrence

Very few individuals (1%-3%) who become infected with GAS will develop rheumatic fever. Results of studies suggest a possible association between a genetic marker and rheumatic fever. Rheumatic fever affects both sexes equally and most commonly occurs in children and teenagers 5-15 years of age. In the past, conditions contributing to higher incidence and more severe cases were overcrowding, poverty, and diminished access to medical care. However, in the United States today, where rheumatic fever cases have been increasing, the lack of recognition of antecedent streptococcal pharyngitis and/or inadequate primary treatment are probable contributing factors.

Period of Communicability

Rheumatic fever is not communicable. Persons who have had acute rheumatic fever are susceptible to recurrences.

Communicability of GAS varies depending on several factors:

- 24-48 hours with adequate penicillin therapy
- 10-21 days in untreated uncomplicated cases
- weeks or months in untreated conditions, with purulent discharges

Incubation Period

Symptoms of GAS usually occur 1-3 days after exposure, rarely longer.
Rheumatic Fever symptoms occur 1-5 weeks after GAS infection.

PUBLIC HEALTH MANAGEMENT

Case

There is no public health follow-up for individual cases of rheumatic fever. In well-documented clusters or epidemics of GAS pharyngitis and in high-risk situations (e.g., evidence of GAS infection in a rheumatic family), search for and treat carriers. Immediately report clusters to the ODH, Bureau of Infectious Disease Control, (614) 466-0265.

Treatment

The objectives of therapy in rheumatic fever are to quiet inflammation, decrease fever and toxicity, and control cardiac failure. Salicylates and corticosteroids are suggested.

Isolation

Rheumatic fever is not an infection, therefore, isolation is not necessary. However, it is possible

that the patient is still infected with GAS or has been re-infected with GAS. In such a case, Drainage/Secretion precautions should be taken. These may be discontinued after 24 hours of appropriate antibiotic treatment.

Prophylaxis

Continuous prophylaxis with Penicillin is recommended for those persons who have been accurately diagnosed with rheumatic fever. The preferred regimen of prophylaxis is injectable benzathine penicillin G; alternate oral regimens include penicillin V, erythromycin, and sulfadiazine.