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Medicine for Managers

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Rheumatic Fever

Rheumatic Fever is an inflammatory disease, nowadays rare, and may develop when a streptococcal throat infection is inadequately treated. It is generally a disease of children but it does occur in adults sometimes. The disease can cause the development of painful joints and also heart disease which may be long-lasting. Treatment is designed to eliminate the pathogenic streptococcal infection and manage other symptoms.

Anyone born after the middle of the twentieth century may not have heard of rheumatic fever and the infection has largely been consigned to history.

However, one hundred years earlier children with rheumatic fever and rheumatic heart disease occupied more hospital beds than those with all other infectious diseases added together.

ONE OF THE LITTLE PATIENTS AT THE HOSPITAL FOR SICK CHILDREN.

Rheumatic fever is most common in children between the ages of five and fifteen, although younger children and adults may also develop the disease.

It is fortunately rare in the United Kingdom and other developed countries these days but more common in those areas where medical care is poor or unavailable.

The Nature and Cause of the Disease

The incidence of the disease plummeted with the introduction of penicillin for the treatment of infected throats caused by the bacterium ***group A streptococcus***.

An appropriately treated streptococcal throat can prevent the development of rheumatic fever and it is important that, if a streptococcal sore throat is suspected, a healthcare professional is consulted. Symptoms of such an infection include a sore throat that comes on quickly, fever, headache and nausea and vomiting.

The Gp A strep may also cause scarlet fever.

The Mechanism of Infection

It is not entirely clear how the development of rheumatic fever occurs. The rheumatic symptoms generally start two to five weeks after the streptococcal throat infection. The symptoms experienced are the result of

inflammation in the heart, joints, skin and nervous system. Sometimes the symptoms are few and mild whilst other sufferers may experience more generalised or severe effects. The symptoms may include:

- Fever
- Joint pains and swelling. The pain may 'flit' between joints, usually affecting wrists, ankles, knees and elbows.
- Chest pain, palpitations and breathlessness
- Fatigue, lethargy and listlessness
- Multiple small bumps beneath the skin
- Painless pale red rash in patches on the
- arms and abdomen

Occasionally a person may develop Sydenham's Chorea, displaying jerky uncontrolled movements, often the face, hands and feet.

The heart damage with rheumatic fever is generally narrowing and inflammation of the heart valves interfering with blood flow, heart muscle damage, heart failure and interference with electrical activity in the heart resulting in fibrillation.

Effective treatment can prevent rheumatic fever and most people with such an infection will not, in any case, develop rheumatic fever. However, if streptococcal infections are not effectively managed the risk is higher.

Rheumatic fever is ***not caused by the bacterium itself*** but by the body's defence mechanism, whilst fighting off the infection, ***attacking the body's own healthy heart, joint and other tissues by mistake***. It is thought that some people may have genes which make them more vulnerable to rheumatic fever. The risk of spreading streptococcal infection is greater in areas of overcrowding and poor sanitation.

Diagnosis

The condition is identified from a detailed medical history, examination and tests which include:

- Blood tests to identify inflammatory change and the presence of the bacteria or proteins related to the infection.
- Electrocardiogram for signs of disease
- Echocardiogram to monitor the heart in motion and how blood flows through it

Management

Symptoms may come and be recurrent. When diagnosed it must be treated vigorously with:

- Antibiotics. It may need to be used for a long period to prevent recurrence
- Anti-inflammatory drugs such as *naproxen* or *aspirin*
- Anti-seizure drugs if indicated.

For a long time, the disease was not understood. In the period between the 1860s and the first world war, data was gradually collected at Great Ormond Street, the Evelina, the Alexandra and Glasgow's Royal Hospital for Sick Children, amongst other units and the disease itself played a significant role in the founding and growth of children's hospitals and the development of paediatric cardiology as a speciality.

Mercifully, the disease is now rare because of modern management and, if it occurs, diagnosis and recovery is normally achieved.

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