

Rheumatic heart valve disease (RHVD) arises when there are repeated bouts of rheumatic fever that usually go untreated. Rheumatic fever (RF) in turn arises when there are repeated bouts of strep throat that usually go untreated. These 3 entities are briefly reviewed.

Strep throat is the most common bacterial infection of the throat, caused by Group A Streptococcus bacteria. It is spread by person-to-person contact with nasal secretions or saliva. Symptoms may be from mild to severe and usually begin suddenly. They can include fever, chills, red throat (with white patches), sore throat, general ill feeling, difficulty swallowing and occasionally associated with a rash. The treatment, which is almost always successful, is penicillin or amoxicillin for 10 days.

Rheumatic fever (RF) is an inflammatory disease that can develop after an infection with Streptococcus bacteria. It occurs about 20 days after a bout of strep throat or scarlet fever (both streptococcus bacterial infections). It mainly affects children aged 6-15 years old. Symptoms may include fever, belly pain, joint pain/arthritis (joint swelling and redness), heart muscle inflammation (carditis), skin nodules or rash, nosebleeds, or Sydenham chorea which includes emotional instability, muscle weakness and quick, uncoordinated jerky movements.

RF is treated with antibiotics. The problem is that RF is likely to come back if low dose antibiotics are not taken continually, especially in the first 3-5 years after the first episode. Carditis can be treated with corticosteroids as opposed to most other forms of heart failure. RF occurs in 3% of patients who get strep throat that goes untreated. If strep throat is treated, the risk of developing RF is a small fraction of that 3%.

The real problem starts when the RF inflammation process begins to affect the heart valves. Repeated episodes of RF make it worse. The only way to prevent RHVD or at least delay valve destruction is continued antibiotic treatment. This usually occurs in the form of intramuscular injections of penicillin. Unfortunately, missed doses will often result in repeated episodes of RF and a high likelihood of heart valve scarring. In Africa, where people often need to walk miles to get to a medical clinic and where supplies may be unavailable, these intramuscular injections are often missed. This is partly why the incidence of RHVD is much higher there.

Ultimately, the problem should be attacked at the primary entry, in other words when the strep throat develops. Secondary treatment of RF, however, will continue to be necessary until strep

throat is routinely treated every time it develops.