Sore throat, also known as “acute pharyngitis”, is one of the most frequent illnesses for which pediatricians and other primary care physicians are consulted, with an estimated 15 million visits per year in the United States.

Strep throat, a throat infection caused by Group A streptococcus (GAS) bacteria, causes 15-30% of sore throats in children and adolescents, typically between the ages of two and eighteen years old.

Strep infections are less common in adults. Although strep can occur during any time of the year, it tends to circulate in late fall and early spring.

Strep Throat May Lead to Rheumatic Fever

It’s important to recognize strep throat because, if left untreated, it may lead to other complications such as scarlet fever, kidney disease, rheumatic fever, and more. Rheumatic fever is a serious condition that can affect the heart, joints, nervous system, and skin.

When a specific group of streptococcal bacteria are involved – Group A beta-hemolytic streptococci - there is a risk of a severe and dangerous complication developing about one to five weeks later, when all seems to be well. This feared complication of strep throat is rheumatic fever. About 3% of untreated Group A beta-hemolytic strep throat cases lead to rheumatic fever.

The initial attack of rheumatic fever involves five major signs and symptoms:
- Carditis, or inflammation of the heart (often causing a heart murmur)
- Chorea, or rapid, purposeless, nonrepetitive movements that are not under conscious control
- Migratory polyarthritis – severe joint pain, redness, and swelling that moves from joint to joint
- Subcutaneous nodules (lumps under the skin)
- Erythema marginatum, or a serpentine flat rash

Though these symptoms will eventually go away, the heart valves may be permanently damaged – possibly requiring open-heart surgery. Rheumatic fever is rare in the United States because of prompt treatment of strep throat, but it is not rare in developing countries, where it is one of the leading causes of heart disease.

Testing

Ultimately, the diagnosis of strep throat must be made through a laboratory examination of material swabbed from the back of the throat. A Rapid Strep test, also known as a Rapid Antigen Detection Test (RADT), and/or throat culture should be performed because the clinical features alone do not reliably differentiate between GAS and viruses.

The advantage of the RADT is a quick result – within minutes. The disadvantage is that this test may miss some strep throat infections. For this reason, many doctors still use throat cultures.

In children and adolescents, negative RADT tests should be backed up by a culture, according to 2012 Guidelines from the Infectious Diseases Society of America (IDSA). Routine use of a back-up culture for those with a negative RADT is not necessary for adults in usual circumstances. However, physicians who wish to ensure they are achieving maximal sensitivity in diagnosis may continue to use a conventional throat culture or to back up negative RADTs with a culture, according to IDSA.

Typically, a double swab is collected – one for the RADT, and one for a possible back-up culture if the RADT is negative. Metropolitan Medical Laboratory, PLC will automatically follow up a negative Rapid Strep test (#8000, Beta-Hemolytic Streptococcus Group A Antigen Screen Throat) with a “Strep Group A” culture unless a clinician directs otherwise.

Treatment & Prevention

The only known way to prevent rheumatic fever in people with strep throat is to use antibiotics at relatively high doses and for a prolonged period of time. Aspirin should be avoided in children.

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