What is group A streptococcal (GAS) and what diseases does it cause?

Group A streptococcus (GAS) is a bacterium that often lives in people's throats or on their skin and most of the time does not make people sick. Diseases most commonly caused by GAS are sore throats ('strep throat') or skin infections (sometimes referred to as 'school sores'). Sometimes specific diseases occur following GAS infections such as acute rheumatic fever and post-streptococcal glomerulonephritis (heart and kidney diseases) but these are uncommon. Occasionally, it does cause other severe and even life-threatening diseases referred to as invasive GAS or iGAS (See below).

How is it spread?

GAS spreads among infected people via skin contact and actions such as sneezing and kissing.

What is invasive GAS (iGAS) disease?

Severe, sometimes life-threatening disease can occur when GAS invades parts of the body such as blood, muscles or lungs. These infections are called invasive GAS (iGAS) disease. Two of the most severe forms are necrotising fasciitis and streptococcal toxic shock syndrome.

Necrotising fasciitis destroys muscles, fat and skin tissue. Streptococcal toxic shock syndrome causes a rapid drop in blood pressure which causes organ failure (e.g. failure of the kidneys, liver, lungs).

Why does iGAS disease occur?

When GAS bacteria gain ‘entrance’ and overwhelm the body’s defenses iGAS diseases can occur. This may happen when the person’s skin defense is compromised by a sore or cut and the bacteria invade. Alternatively people with chronic illnesses or illnesses that affect the immune system may be more vulnerable to iGAS. Rarely, people with no known risk factors have developed iGAS disease.

Who is at risk?

Most people who come in contact with GAS will not develop iGAS disease. Some will have symptoms of a throat or skin infection but most will have no symptoms at all. Although healthy people can get iGAS disease those most at risk are:

- children under 5 years of age, especially infants
- people aged over 65 years
- Indigenous people
- people living in poor hygienic and crowded conditions
- people with chronic illnesses (e.g. cancer, diabetes, chronic lung, heart, liver and kidney diseases) and those with heavy alcohol consumption (consume over 20 standard drinks a week or binge drinking).

People with skin and soft tissue infections such as cellulitis

- People who use medications such as steroids for a long time
- Children with a recent (2 weeks) history of chickenpox

What is the treatment for iGAS disease?

- Prompt antibiotic therapy is required and most people need admission to hospital for supportive clinical measures. People with necrotising fasciitis may require surgery to remove damaged tissue.
What is the risk and advice for contacts of people with iGAS disease?
The risk of secondary cases of iGAS occurring in contacts is small. The Centre for Disease Control (CDC) will follow up people diagnosed with iGAS disease to consider management of their recent and close contacts. In some circumstances the CDC will recommend close contacts receive antibiotics to eradicate the GAS. Any contacts with signs of a sore throat or an infected wound, especially if fever occurs, should seek medical care.

Can GAS infections be prevented?
Good hygiene is the mainstay of preventing all forms of GAS disease.
To reduce the spread of bacteria wash your hands, especially after coughing and sneezing and before preparing, eating or serving foods. People with ‘strep throats’ should stay at home for 24 hours after taking an effective antibiotic.

For more information contact the Centre for Disease Control in your region

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