

Group A Streptococcal Disease (GAS)

Serious bacterial infections are becoming more common. One of these is Group A Streptococcal (GAS) infection which can have a host of clinical manifestations from pharyngitis, flu like illness (bacteraemia) watery vaginitis, (toxins lysing white cells so no creamy discharge) D&V(again due to exotoxins/enterotoxins) impetigo, otitis media & cellulitis through to necrotising fasciitis. (major feature here being agonising pain out of proportion to physical signs) and toxic shock syndrome (sepsis following a flu like illness, D& V, often generalised rash , conjunctival suffusion).

This table of number of isolates of Streptococcal infection between 2007 and 2008 helps to illustrate the problem, and it seems that these infections have been increasing year on year for the last five years.

Strep isolates form specimens sent to Exeter micro lab 2007-8

	2007	2008
Jan	101	83
Feb	84	94
Mar	128	93
April	55	106
May	86	134
June	66	142
July	66	146
Aug	57	78
Sept	39	61
Oct	71	92
Nov	66	106
Dec	67	108
Total	886	1101

Most streptococcal infections such as scarlet fever, impetigo or streptococcal pharyngitis, are less severe, but necrotising infections, pneumonia and streptococcal toxic shock syndrome, are life threatening. (Mortality 30-83%)

Streptococci are transmitted by close (eg household) contact, exchanging large droplets of pharyngeal secretions or, by direct contact with lesions. Throat/perineal carriers can then suffer invasive infection through tiny abrasions or eg after a viral pharyngitis. Casual contacts are not at measurable risk, but streptococcal spread throughout households is very common, eg children sharing baths, beds and towels .Hence other household members should have a low threshold for consulting their doctor if they develop symptoms, such as a sore throat and feeling unwell.

Although we have been seeing elevated levels of Streptococcal infection all year round, late winter and early spring are expected to be the peak times for streptococcal infection.

Diagnosis of the less serious streptococcal infections such as pharyngitis/impetigo is largely clinical, but a swab taken before treatment starts will confirm diagnosis and help guide therapy if other family members consult, as the whole family may need treating to prevent 'ping pong' infection. Swabbing also helps to quantify the problem.

Treatment for the simpler streptococcal infections is a 10 day course of oral Penicillin, but in mixed infections (such as impetigo) then other antibiotics such as co-amoxyclav or erythromycin may be indicated. The microbiologists can advise on this.

For the more severe, and difficult to diagnose GAS infections likely to be seen in the Emergency or Admissions Departments, a history of D&V, contact with pharyngitis or skin infections, and a flu like illness are all features that should suggest the possibility of a streptococcal infection. (Remember that joint or soft tissue injury presenting with a severe level of pain and discomfort disproportionate to the visible inflammation or injury could be early necrotising fasciitis- often masked/late presenting, especially if the patient has taken NSAIDs). The differential white cell count can be helpful - lymphopenia with a normal or unexpectedly low total WCC is suggestive of exotoxins - eg GAS infection. Requesting a CK and a CRP will be helpful as a high CK suggests muscle damage (myositis & TSS) and a high CRP suggests serious bacterial infection. Considered with the history and clinical presentation, such abnormal blood results may aid diagnosis of serious strep/Staph infection. Therapy of serious invasive strep or staphs infections is similar - antibiotics switching off exotoxin production (clindamycin /linezolid) and immunoglobulin.

Information Compiled by

Dr Mark Kealy Consultant in Communicable Disease Control
South West Peninsula Health Protection Unit
Contactable on (01803) 861833

Dr Marina Morgan Consultant Microbiologist
Royal Devon and Exeter Foundation Trust
Contactable through Radio Page via switchboard (01392) 411611