Group A streptococcal infections: sixth update on seasonal activity, 2014/15

Continued declines in scarlet fever notifications have been seen over the past few weeks in line with the expected seasonal fall in incidence. Levels of notified cases remain elevated in all parts of England compared to pre 2014 seasons [1]. Laboratory notifications and isolate referrals of invasive group A streptococcal (iGAS) disease remain elevated for the time of year and due to rare but potentially severe complications associated with GAS infections, clinicians, microbiologists and health protection teams should continue to be mindful of potential increases in invasive disease and maintain a high degree of suspicion in relevant patients.

Scarlet fever

A total of 14,387 scarlet fever notifications have been made in England so far this season (weeks 37 2014 to 25 2015). Notifications peaked in week 13 of 2015 with over 1200 cases notified after which average weekly declines of 11% were seen with 232 notifications made in week 25 (figure 1).

Figure 1. Weekly scarlet fever notifications in England, 2009/10 onwards*

* Dashed line indicates that numbers may increase as further notifications expected.
Scarlet fever notifications remain elevated in the majority of areas in England. The areas with the highest notification rates so far this season are Yorkshire and the Humber (43.2/100,000), East Midlands (41.7), Wessex (34.1) and Cumbria and Lancashire (33.5). London had the lowest scarlet fever notification rate (15.8/100,000).

The age distribution of scarlet fever cases notified this season remains similar to previous years, with 89% of cases reported in children under 10 years of age (median 4 years; range <1y to 93y). The incidence of scarlet fever in children ranged from 23.5/100,000 population in 10 to 14 year olds to 274.0/100,000 in 1 to 4 year olds this season (figure 2). Notifications were evenly distributed by sex across all age groups.

**Figure 2. Age and sex specific rates of scarlet fever notification, England, week 37 2014 to week 25 2015**

![Graph showing age and sex specific rates of scarlet fever notification](image)

**Invasive Group A Streptococcus**

The total number of laboratory notifications of iGAS infection in England received so far this season stands at 1322 (weeks 37 to 25), slightly above average for the same period over the last five years (1135 reports; figure 3). The median age of patients with iGAS infection so far this season is 62 years (range <1y to 105y).

Geographical variation in iGAS infection reports was noted across England, with all but two of the 15 English regions reporting slightly higher infection rates so far this season (weeks 37 2014 to 25 2015) when compared with the same time last season. The areas with the highest reporting rates so far this year are the North East (2.9 per 100,000 population), Devon, Cornwall and Somerset (2.9), Cumbria and Lancashire (2.8) and Yorkshire and the Humber (2.8).

Antimicrobial susceptibility results from laboratory notifications of iGAS infection for the season so far indicate erythromycin non-susceptibility is within the usual range at 6%. The susceptibility testing of iGAS isolates against other key antimicrobials indicate no changes in resistance (tetracycline, 10%; clindamycin, 3%; and penicillin, 0%).
The national reference laboratory have undertaken *emm* strain diversity testing for 1271 iGAS isolates sent so far this season (October to June 2015). The results indicate that *emm* st1 was the most common (29% of referrals) followed by *emm* st3 (12%), *emm* st12 (11%) and *emm* st89 (8%). No identification of novel strains or unusual increases in specific strain types has been seen.

**Figure 3. Weekly routine laboratory reports of iGAS infection, England, 2009/10 onwards**

* Dashed line indicates that numbers may increase as further notifications expected.

Whilst the levels of scarlet fever are in seasonal decline the scale of the elevation noted over the last two seasons remains a concern with efforts ongoing to assess the impact on complications including rates of hospitalisation. The slight elevation in invasive disease (compared with recent years) is of some concern and emphasises the need for continued vigilance amongst frontline healthcare professionals. Early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be life-saving. Invasive disease isolates and those from suspected clusters or outbreaks should be submitted to the Respiratory and Vaccine Preventable Bacteria Reference Unit at Public Health England, 61 Colindale Avenue, London NW9 5HT. Relevant guidelines and FAQs are available on the PHE website, as follows:

- Guidelines on infection control in schools and other childcare settings, including recommended exclusion periods for scarlet fever and guidelines on management of scarlet fever outbreaks, can be found at:  

- FAQs on scarlet fever can be found at:  
Guidelines for the management of close community contacts of invasive GAS cases and the prevention and control of GAS transmission in acute healthcare and maternity settings are also available here: https://www.gov.uk/government/collections/group-a-streptococcal-infections-guidance-and-data.

Reference