Group A streptococcal infections: second report on seasonal activity, 2018/19

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Scarlet fever surveillance indicates typical seasonal increases although the number of cases is currently lower than levels reported at this time point in each of the last few seasons (weeks 37 to 12) [1]. The number of laboratory notifications of invasive group A streptococcal (iGAS) disease are within the range of what is normally reported at this time of year.

GPs, microbiologists and paediatricians are reminded of the importance of prompt notification of cases and outbreaks to local Public Health England (PHE) Health Protection Teams (HPTs), obtaining throat swabs (prior to commencing antibiotics) when there is uncertainty about the diagnosis, and exclusion of cases from school/work until 24 hours of antibiotic treatment has been received [2]. Due to rare but potentially severe complications associated with GAS infections, clinicians and HPTs should continue to be mindful of potential increases in invasive disease and maintain a high degree of clinical suspicion when assessing patients.

Scarlet Fever

Scarlet fever notifications in England are increasing in line with the usual seasonal pattern, but substantially lower than recent years (figure 1) [1]. A total of 7,854 notifications of scarlet fever have been received to date this season in England (weeks 37 to 12, 2018/19) compared to 17,455 for the same period last season (2017/18), with 456 notifications received for the most recent week (week 12, 18-24 March). This relatively low level of activity may indicate a low incidence season, or a delayed season, as seen in 2013/14 where activity peaked in week 15.
Figure 1. Weekly scarlet fever notifications in England, 2013/14 onwards*

*Dashed line indicated numbers may increase as further notifications expected.

Rates of notified scarlet fever cases so far this season were highest in the North West at 18.1 per 100,000 population, followed by the North East (17.5), Yorkshire and the Humber (17.4), East Midlands (16.7) and the South West (14.9). The East of England area had the lowest rate at 10.1/100,000. All areas have lower incidence compared with this time last season (table 1).

Table 1. Regional rates of scarlet fever notification in England in 2018/19 and 2017/18 (weeks 37 to 12)

<table>
<thead>
<tr>
<th>PHE Centre Name</th>
<th>2017/18 season weeks 37 to 12</th>
<th>2018/19 season weeks 37 to 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. cases</td>
<td>Rate</td>
</tr>
<tr>
<td>East of England</td>
<td>1,033</td>
<td>16.2</td>
</tr>
<tr>
<td>East Midlands</td>
<td>1,979</td>
<td>41.9</td>
</tr>
<tr>
<td>London</td>
<td>1,584</td>
<td>18.0</td>
</tr>
<tr>
<td>North East</td>
<td>1,116</td>
<td>42.3</td>
</tr>
<tr>
<td>North West</td>
<td>3,379</td>
<td>46.8</td>
</tr>
<tr>
<td>South East</td>
<td>3,342</td>
<td>38.1</td>
</tr>
<tr>
<td>South West</td>
<td>1,384</td>
<td>25.1</td>
</tr>
<tr>
<td>West Midlands</td>
<td>1,567</td>
<td>27.0</td>
</tr>
<tr>
<td>Yorkshire and the Humber</td>
<td>2,071</td>
<td>38.2</td>
</tr>
<tr>
<td><strong>England</strong></td>
<td><strong>17,455</strong></td>
<td><strong>31.6</strong></td>
</tr>
</tbody>
</table>
The age distribution of scarlet fever cases notified so far for this season remains similar to previous years, with 88% being children under 10 years (median 4y; range <1y to 82y) and a near equal split between males (49%) and females overall.

**Invasive Group A streptococcal infection**

So far this season (week 37 to 11 2018/19), there have been 1,151 notifications of iGAS disease reported through laboratory surveillance in England, higher than the average (947) for the previous five years (range 698 to 1,423) but lower than the 1,423 notifications for 2017/18 (figure 2). The highest rates this season were reported in the Yorkshire and Humber region (3.6 per 100,000 population), followed by the North West (2.3), North East and West Midlands (2.2/100,000). The lowest was reported by the East of England region at 1.5/100,000.

**Figure 2. Weekly laboratory notifications of invasive GAS infection, England, 2013/14 onwards**

*Dashed line indicated numbers may increase as further notifications expected.*
The median age of patients with iGAS infection so far this season is 56 years (range <1y to 104y), within the range seen at this point in the preceding five seasons (52y to 61y). Ten per cent of infections reported this season are in children (<10y), lower than the average for the previous 5 seasons (14%; range 12% to 17%).

Analysis of reference laboratory iGAS isolate submissions indicates a diverse range of emm types identified in 2019 (January to March 2019) with a continued dominance of emm 1 (19% of referred isolates). Other common types this season are emm 89 (14%) and emm 3 (6%).

Antimicrobial susceptibility results from routine laboratory surveillance indicate erythromycin non-susceptibility in 9% of GAS sterile site isolates, which is higher than at the same point in the last five seasons (5-6%). The susceptibility testing of iGAS isolates against other key antimicrobials (tetracycline, 18%; clindamycin, 7%) indicate a slight elevation in resistance at this point in the season although isolates remain universally susceptible to penicillin.

**Discussion**

The current activity for scarlet fever is lower than last season but remains in line with what has been seen during the ‘upsurge’ period since 2013. The lower scarlet fever activity in March is also being reflected in the in-hours GP consultation surveillance [3]. Continued escalation over the coming weeks is possible with peak activity typically occurring between weeks 11 and 15 (mid-March to mid-April).

Close monitoring, rapid and decisive response to potential outbreaks and early treatment of scarlet fever is vital, especially given the potential for complications associated with GAS infections [4,5]

The number of cases of iGAS disease notified through routine laboratory surveillance in England remains elevated for the season total but low at this point of the 2018/19 season. This follows an exceptionally high year of iGAS reporting in England. Clinicians, microbiologists and HPTs should continue to be mindful of potential increases in invasive disease and maintain a high index of suspicion in relevant patients as 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/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/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: https://www.gov.uk/government/publications/scarlet-fever-managing-outbreaks-in-schools-and-nurseries

- FAQs on scarlet fever can be found at: https://www.gov.uk/government/collections/scarlet-fever-guidance-and-data

- 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

Weekly notifiable disease reports are published each week for a timelier update, these can be found at: https://www.gov.uk/government/collections/notifications-of-infectious-diseases-noids

References

2. PHE. Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings.
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About Health Protection Report

*Health Protection Report* is a national public health bulletin for England and Wales, published by Public Health England. It is PHE’s principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

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