Infection report

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Group A streptococcal infections: update on seasonal activity, 2015/16

Following the substantial elevation in scarlet fever notifications in the last two seasons, indications from the early part of this 2015/16 season continue to show elevated levels with current weekly totals exceeding the record levels seen at this point last season (2014/15) [1]. Steep increases in scarlet fever activity have been noted in a number of areas in England since the beginning of 2016. 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, obtaining throat swabs (prior to commencing antibiotics) when there is uncertainty about the diagnosis, and exclusion from school/work until 24 hours of antibiotic treatment has been received [2].

Routine laboratory reports of invasive group A streptococcal (iGAS) disease are currently within usual levels for this time of year. Due to rare but potentially severe complications associated with GAS infections, clinicians 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

Following the substantial increase in scarlet fever during the 2013/14 and 2014/15 seasons, the number of notifications remains elevated across most parts of England into the 2015/16 season. The increasing numbers currently being seen are in line with the usual seasonal pattern (figure 1). A total of 4701 notifications of scarlet fever between weeks 37 to 6 of season 2015/16 were made to PHE compared to 3399 for this period last season, with 478 notifications received for the most recent week (week 6, 8-14 Feb).

Population rates of notified scarlet fever cases so far this season were highest in the East Midlands at 15.1 per 100,000 population, followed by Yorkshire & the Humber (12.3/100,000), the North East (12.1), Cheshire & Merseyside (11.9) and Thames Valley (10.7). The South Midlands & Hertfordshire area had the lowest rate at 4.7/100,000.

The age distribution of cases notified so far this season remains similar to previous years, with 91% being children under 10 years (median 4y; range <1y to 91y).
Invasive Group A Streptococcus

Laboratory reports of iGAS disease notified through routine laboratory surveillance in England total 679 cases so far this season (week 37 to 06 2015/16), higher than the average for the previous five years (553 reports) and just above the range seen during these years (457 to 632; figure 2). Nine of 15 English regions have reported higher than average iGAS cases so far this season: Yorkshire & the Humber (102), East Midlands (70), South Midlands & Hertfordshire (28), North East (42), Devon, Cornwall & Somerset (45), London (85), Cumbria & Lancashire (27) and East Midlands (70). This reflects the elevation in incidence of iGAS infection earlier in the season [1], with current weekly totals in line with the previous few years.

The median age of patients with iGAS infection so far this season is 52 years (range <1y to 102y), lower than the same point last season (63.5y) or the preceding five seasons (56y to 64y). Seventeen per-cent of infections reported so far this season are in children (<10y), which is within the range of what has been reported at the same point in the previous 5 seasons (mean 13%; range 11% to 18%).

Analysis of iGAS emm strain diversity remains similar to previous years with emm st1 and emm st12 and emm st89 the most common types identified so far this season (September to December 2015).
Antimicrobial susceptibility results indicate erythromycin non-susceptibility in 8% of GAS sterile site isolates, slightly higher than at the same point in the last five seasons (4-6%). The susceptibility testing of iGAS isolates against other key antimicrobials (tetracycline, 15%; clindamycin, 8%; and penicillin, 0%) indicate no changes in resistance.

**Figure 2. Weekly count of invasive GAS laboratory reports, England, 2010/11 onwards**

* Dashed line indicates that numbers may increase as further isolates expected

This acceleration in scarlet fever notification is slightly earlier than observed in the last two seasons although in line with previous years. Since the unusual high levels of scarlet fever reported in 2014, levels of scarlet fever have remained elevated. Whilst this might reflect heightened awareness and improved diagnosis and/or notification practices, the high number of cases being currently notified is of concern as we potentially face the third season in a row of exceptionally high scarlet fever notifications. Over 17,000 cases of scarlet fever were notified in England and Wales last year (2015), the highest total since the late 1960s. Close monitoring, rapid and decisive response to potential outbreaks and early treatment of scarlet fever remains essential, especially given the potential complications associated with GAS infections.

Whilst the elevation in iGAS disease identified earlier in the season has reduced, frontline clinicians and microbiologists should be mindful of potential increases in invasive disease as the season progresses and maintain a high index of suspicion in relevant patients. 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:
- 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

References

2. PHE. Interim guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings.