

Disease Outbreak News

Increased incidence of scarlet fever and invasive Group A Streptococcus infection - multi-country

15 December 2022

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Situation at a glance

As of 8 December 2022, at least five Member States in the European Region, reported to WHO an increase in cases of invasive group A streptococcus (iGAS) disease and in some cases also scarlet fever. An increase in iGAS-related deaths has also been reported in some of these countries. Children under 10 years of age represent the most affected age group. Group A Streptococcal (GAS) infection commonly causes mild illnesses such as tonsillitis, pharyngitis, impetigo, cellulitis and scarlet fever. However, in rare instances, GAS infection can lead to invasive iGAS, which can cause life-threatening conditions. The observed increase may reflect an early start to the GAS infection season coinciding with an increase in the circulation of respiratory viruses and possible viral coinfection which may increase the risk of invasive GAS disease. This is in the context of increased population mixing following a period of reduced circulation of GAS during the COVID-19 pandemic. In light of the moderate increase in cases of iGAS, GAS endemicity, no new emm gene sequence type identified and no reports of increased antibiotic resistance, WHO assesses that the risk for the general population posed by iGAS infections is low at present.

Description of the situation

During 2022, France, Ireland, the Netherlands, Sweden, and the United Kingdom of Great Britain and Northern Ireland, have been observing an increase in cases of invasive group A streptococcus disease and scarlet fever, mostly affecting children under 10 years of age. The increase has been particularly marked during the second half of the year.

In France, since mid-November 2022, clinicians have reported to Santé Publique France (SpF) and the Regional Health Agencies (ARS), an unusual increase in the number of iGAS cases and the detection of iGAS clusters. Some pediatric cases have been fatal. On 8 December, SpF published a [status update](#) reporting an increase in the number of iGAS infections in France since the beginning of 2022 in different regions (Occitanie, Auvergne-Rhône-Alpes, Nouvelle-Aquitaine), mainly in children under 10 years of age. SpF also detected an increase in cases of scarlet fever reported in outpatient clinics in the country since September 2022.

On 6 December, the [Irish Health Protection Surveillance Centre \(HPSC\)](#) reported an increase in iGAS cases in Ireland since the beginning of October. In 2022, as of 8 December, 57 iGAS cases have been notified to HPSC, of which 15 were in children less than 10 years of age. Twenty-three of the 57 iGAS cases have been reported since October 2022, compared to the 11 cases reported for the same period of 2019 (pre-COVID-19 pandemic).

The Public Health Agency of the Netherlands (RIVM) observed an increase in iGAS infections among children from March 2022 onward. Data between March and July 2022 indicates increased numbers of iGAS cases caused by different known emm gene sequence types (the gene encoding the M virulence protein responsible for many *Streptococcus pyogenes* serotypes). This increase has thus far not subsided. Coinfections with varicella zoster and respiratory viruses were noted.

In Sweden, since October 2022, an increase in iGAS in children under 10 years of age has been noted as compared to COVID-19 pre-pandemic levels for the equivalent period. Out of the 93 cases reported from October to 7 December, 16 (17.2%) occurred among children under 10 years of age. Between October and December 2018, seven iGAS cases were reported in this age group and 10 cases in 2019. According to the [Public Health Agency of Sweden](#), during the season 1 July 2021 through 30 June 2022, 220 cases of iGAS were reported, compared to 173 cases reported in the previous season 2020/21. The highest numbers of iGAS cases, since iGAS became notifiable in Sweden in 2004, were reported before the pandemic in 2018/19 with 794 cases (incidence 7.8 per 100 000) and in 2017/18 with 800 cases (incidence 7.9 per 100 000).

According to the [UK Health Security Agency](#), following a higher-than-expected scarlet fever activity in the summer in England, with a decrease during August 2022, notifications from mid-September to early December have increased again, remaining above what is normally seen at this time of year. A total of 4622 notifications of scarlet fever were reported from weeks 37 to 46 of the current season (2022/23), with 851 notifications received in week 46. This compares with an average of 1294 (range 258 to 2008) for this same period (weeks 37 to 46) in the previous five years. As expected, several scarlet fever outbreaks in nurseries and schools are being reported, of which a number involve the co-circulation of respiratory viruses. Likewise, in the summer of 2022, the levels of iGAS notifications were higher than expected, and iGAS notifications are currently higher than have been recorded over the last five seasons in all age groups (average 248, range 142 to 357 notifications). As of 8 December, 509 notifications of iGAS disease were reported through laboratory surveillance in England, with a weekly high of 73 notifications in week 46 (week commencing on 14 November). So far this season and as of 8 December 2022, the United Kingdom reported 13 deaths within seven days of an iGAS diagnosis in children under 15 years in England. This compares with four deaths in the same period in the 2017 to 2018 (pre-COVID-19 pandemic) season. Antimicrobial susceptibility results from routine laboratory surveillance in the United Kingdom indicated no increased antibiotic resistance. Additionally, laboratory surveillance has not revealed newly emerging emm gene sequence types.

Epidemiology

Streptococcus pyogenes, also known as Group A *Streptococcus*, is a group of Gram-positive bacteria which can be carried in human throats or skin; it is responsible for more than 500 000 deaths annually worldwide.

Transmission occurs by close contact with an infected person and can be passed on through coughs, sneezes, or contact with a wound.

GAS infection commonly causes mild illnesses such as tonsillitis, pharyngitis, impetigo, cellulitis and scarlet fever. GAS infections are easily treated with antibiotics, and a person with a mild illness stops being contagious after 24 hours of treatment.

GAS is considered a common cause of bacterial pharyngitis in school-aged children and may also affect younger children. The incidence of GAS pharyngitis usually peaks during winter months and early spring. Outbreaks in kindergartens and schools are common. GAS pharyngitis is diagnosed by rapid antigen tests (Rapid Strep) or bacterial culture and is treated with antibiotics and supportive care. Good hand hygiene and general personal hygiene can help control transmission.

However, in rare instances, GAS infection can lead to invasive GAS, which can cause life-threatening conditions, such as necrotizing fasciitis, streptococcal toxic shock syndrome and other severe infections, as well as post-immune mediated diseases, such as poststreptococcal glomerulonephritis, acute rheumatic fever and rheumatic heart disease.

Public health response

Enhanced surveillance activities have been implemented in the countries reporting an increase in iGAS cases, together with public health messages addressing the general population and clinicians, in order to enhance early recognition, reporting and prompt treatment initiation of GAS cases. An alert has been issued to other countries to be vigilant for a similar rise in cases and to report any unexpected increased national or regional incidence of iGAS infections to WHO.

WHO continues to support countries in assessing and responding to the epidemiological situation across the region and to provide recommendations to the public.

WHO risk assessment

WHO currently assesses the risk for the general population posed by the reported increase in iGAS infections in some European countries as low, considering the moderate rise in iGAS cases, GAS endemicity, no newly emerging emm gene sequence types identified, and no observed increases in antibiotic resistance.

The risk will be continuously assessed based on available and shared information.

WHO advice

The reports of these events do not change the current WHO recommendations on public health measures and surveillance of iGAS.

General recommendations

- **WHO recommends continued close analysis of the epidemiological situation in countries throughout the European region, which will be critical to assess ongoing risk and to adjust risk management measures in a timely manner.**

- WHO recommends that all countries be vigilant for a similar rise in cases, particularly in light of the ongoing increase in respiratory virus circulation that is now occurring across Europe.
- Given the potential for severe cases, it remains important that GAS-related infections, including scarlet fever, streptococcal toxic shock syndrome, are identified and treated promptly with antibiotics to reduce the risk of potential complications such as iGAS and reduce onward transmission.
- Countries should report any unexpected increased national or regional incidence of iGAS infections to WHO through IHR or equivalent mechanisms either as notifications or consultations, as applicable and driven by the decision-making instrument in Annex 2 of the IHR (2005).

Clinical recommendations

- WHO encourages countries to undertake public health communication activities and messaging to healthcare providers to ensure proper clinical assessment and diagnostic testing of patients with symptoms consistent with GAS infection, and prompt treatment of patients with GAS. In addition, healthcare providers should be reminded that for iGAS infection, early recognition and prompt initiation of specific and supportive therapy for patients can be life-saving.
- Healthcare providers should maintain a high degree of clinical suspicion for GAS infection when assessing patients, particularly those with preceding viral infection (including chickenpox) and those who are close contacts of scarlet fever or iGAS patients. In case of hospital admission, droplet precautions should be implemented. Healthcare workers should always follow standard precautions and perform a risk assessment to evaluate the need for additional precautions.
- Healthcare providers should also be reminded of the increased risk of invasive disease among household contacts of scarlet fever and iGAS cases. Close contacts of these cases should be managed according to national guidance. In addition, adequate hand and respiratory hygiene and adequate indoor ventilation should continue to be emphasized as important protective measures during this winter season.

Laboratory and Surveillance recommendations

- Clusters of cases of iGAS should be reported to local, regional or national health authorities to prompt further investigation.
- In addition, laboratories should be encouraged to submit invasive disease isolates and also non-invasive isolates from suspected clusters or outbreaks to national reference laboratories for further characterization and antibiotic susceptibility testing.

Travel

WHO does not recommend any restrictions on travel and/or trade for any affected countries based on available information about this event.

Further information

- [WHO Europe. Increase in invasive Group A streptococcal infections among children in Europe, including fatalities](#)

- World Health Organization. (2022). Transmission-based precautions for the prevention and control of infections: aide-memoire. World Health Organization.
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- UK Health Security Agency; Group A streptococcal infections: report on seasonal activity in England, 2022 to 2023 Updated 8 December 2022
- Santé publique France. Invasive Group A Streptococcal Infection (IISGA): update as of December 8, 2022
- Health Protection Surveillance Centre. Update on Group A streptococcus (GAS). December 7, 2022

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