Extensively drug-resistant typhoid fever in Pakistan

An outbreak of extensively drug-resistant (XDR) typhoid fever has been reported in Pakistan

During November 2016 an outbreak of extensively drug-resistant (XDR) typhoid was reported from the Sindh region of Pakistan, including the cities of Hyderabad and Karachi [1]. As of January 2018, 2,089 confirmed cases are reported [2]; however new cases continue to be reported [3]. During 2018, cases have been reported in returning travellers to the UK [4] and the United States [1].

Genetic testing has shown that the outbreak is caused by a new strain of typhoid known to be resistant to five different types of antibiotics (chloramphenicol, ampicillin, co-trimoxazole, streptomycin, tetracycline) and third generation cephalosporins that are usually used to treat multi-drug resistant infections [4, 5].

Typhoid fever is a systemic infection caused by *Salmonella Typhi*, usually through ingestion of contaminated food and water. Signs and symptoms include fever, headache, nausea, loss of appetite, constipation and sometimes diarrhoea [5]. The incubation period is typically 7-14 days, although can be as long as 60 days [6]. If untreated, severe forms of the disease can be fatal. In addition, a small proportion of those infected can become chronic carriers without experiencing symptoms and if in a risk group (e.g. a food handler or health worker) there is a risk of onward transmission to others [6].

In 2016, there were 313 cases in England, Wales and Northern Ireland, a small increase compared to the 302 cases reported in 2015 [7]; the majority acquired the infection abroad, mostly in the Indian sub-continent; 95 were acquired in Pakistan [8].

Advice for travellers

Typhoid is transmitted through the ingestion of food or water that has been heavily contaminated by the *Salmonella Typhi* bacterium. It can be passed in the faeces of persons who are acutely ill or from chronic (long-term) carriers of the infection. All travellers should practise food and water hygiene precautions.

This outbreak of XDR typhoid also highlights the importance of vaccination for travellers. Typhoid vaccination is recommended for most travellers to Pakistan. Both oral and injectable vaccines are available. Although not licensed for this age group, children between the ages of 12 months and two years should be immunised if the risk of typhoid fever is considered high [9]. If your children are too young to benefit fully from typhoid vaccination, you must take scrupulous care with personal, food and water hygiene measures. If you have recently travelled to or been in contact with someone who has recently travelled to Pakistan and develop symptoms, seek medical attention and tell your GP about your travel history.

Further information is available from the Typhoid and paratyphoid factsheet.

Country specific information can be found on our Country Information pages and Outbreak Surveillance database.
Advice for health professionals

Health care providers in the UK are reminded to consider typhoid infection in those presenting with symptoms who have travelled to Pakistan or the Indian subcontinent or who have been in contact with those who have recently returned. [Treatment options](#) when typhoid is suspected are available.

Typhoid and paratyphoid are [notifiable diseases in England and Wales](#). Health professionals must inform [local health protection teams of suspected cases](#).

Resources

- [Country Information pages](#)
- [Outbreak Surveillance database](#)
- [Typhoid and paratyphoid factsheet](#)

References

9. PHE. Immunisation against infectious disease, Green Book, Ch. 33 [Accessed 17 September 2018]; Typhoid