



May 10, 2019

Health Care Provider Advisory: Drug-resistant Typhoid Fever in travelers returning from Pakistan

Related to an outbreak of extensively drug resistant *Salmonella enterica* serotype Typhi in Pakistan, there have been 9 cases of XDR S. Typhi in Ontario between July 2018 and 6 May 2019, mainly in Toronto or Peel Region.

Recommendations:

1. Inquire about travel to Pakistan and other areas in South Asia in patients with symptoms compatible with typhoid fever. Note that patients who have received the typhoid fever vaccine may still become ill, as the vaccine is 50-80% effective.
2. Lab testing:
 - a. Blood cultures and stool samples should be collected for bacterial culture and submitted to your local laboratory for routine testing. Please include travel history on the requisition.
 - b. In addition to routine susceptibility testing, all S. Typhi isolates from Pakistan should be tested for carbapenem and azithromycin susceptibility.
 - c. All isolates of S. Typhi should be forwarded to PHO laboratory for confirmation. Please include travel history and indicate if the isolate is XDR on the requisition. PHO will perform identification and full susceptibility testing including for azithromycin and carbapenems.
3. Patients with suspected typhoid fever and a travel history to Pakistan should be empirically treated with azithromycin or carbapenems based on clinical presentation pending full antimicrobial susceptibility testing results. Do not use fluoroquinolones or ceftriaxone empirically for these patients. Consult infectious disease specialist for patients with severe typhoid fever.
4. All suspect and confirmed cases of typhoid fever must be reported to the local public health unit as soon as possible.
5. Prevention:
 - a. Advise patients who are planning to travel abroad to obtain a travel medicine consultation as early as possible before their trip, including an assessment of the need for typhoid vaccine.
 - b. Counsel patients on following safe food and water practices and proper hand hygiene.
 - c. Patients who are visiting friends and relatives are at higher risk compared to business travelers and tourists and should be counselled accordingly.

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