

Salmonella Paratyphi infection

(*Salmonella enterica* serotypes Paratyphi A, B [tartrate negative], and C [*S. Paratyphi*])

2019 Case Definition

CSTE Position Statement Number: 18-ID-08

Clinical Description

Infections caused by *Salmonella enterica* serotypes Paratyphi A, B (tartrate negative), and C are often characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation or diarrhea, and non-productive cough. However, mild and atypical infections may occur. Carriage of *S. Paratyphi* A, B (tartrate negative), and C may be prolonged.

Clinical Criteria

One or more of the following:

- Fever
- Diarrhea
- Abdominal cramps
- Constipation
- Anorexia
- Relative bradycardia

Laboratory Criteria for Diagnosis

Confirmed:

- Isolation of *S. Paratyphi* A, B (tartrate negative), or C from a clinical specimen.

Probable:

- Detection of *S. Paratyphi* A, B (tartrate negative), or C in a clinical specimen using a culture-independent diagnostic test (CIDT).

Note: Serologic testing (i.e., detection of antibodies to *S. Paratyphi* A, B, or C) should not be utilized for case classification.

Epidemiologic Linkage

- Epidemiological linkage to a confirmed *S. Paratyphi* infection case, **OR**
- Epidemiological linkage to a probable *S. Paratyphi* infection case with laboratory evidence, **OR**

- Member of a risk group as defined by public health authorities during an outbreak.

Criteria to Distinguish a New Case from an Existing Case

A new case should be created when either:

- A positive laboratory result is received more than 365 days after the most recent positive laboratory result associated with a previously reported case in the same person **OR**
- Two or more different serotypes are identified in one or more specimens from the same person.

Case Classification

Probable:

- A clinically compatible illness in a person with presumptive laboratory evidence.
- A clinically compatible illness in a person with an epidemiological linkage.

Confirmed

A person with confirmatory laboratory evidence.

Comments

Persons with isolation of *S. Paratyphi B* (tartrate positive) from a clinical specimen should be categorized as a salmonellosis case.

Several serological tests have been developed to detect antibodies to *S. Paratyphi A*, *B*, and *C*. However, no current serological test is sufficiently sensitive or specific to replace culture-based tests for the identification of *S. Paratyphi* infections. Whether public health follow-up for positive serologic testing is conducted and how is at the discretion of the jurisdiction. The percentage of persons with *S. Paratyphi A*, *B* (tartrate negative), or *C* infections that become chronic carriers is not known.

Differentiating whether a person is a chronic carrier or is experiencing a new infection often relies on a variety of factors, including advanced laboratory testing (e.g., pulsed-field gel electrophoresis [PFGE], whole genome sequencing [WGS]) to compare the isolate from the previous infection to the new isolate. While these methodologies can provide detailed information about the genetic make-up of the organisms, there is still significant variability in how two organisms can be defined as different. Given the potential for inconsistent application of the label “different” across jurisdictions, this case definition does not exclude persons with a previously reported *S. Paratyphi* Infection case from being counted as a new case if the subsequent positive laboratory result is more than 365 days from the most recent positive laboratory result associated with the existing case.