

Antimicrobial agents and fecal isolates of Salmonella and Shigella

Explanation of the choice of antimicrobial agents tested and reported for fecal isolates of Salmonella and Shigella:

Questions:

When testing fecal isolates of Salmonella and Shigella from a pediatric case, what antimicrobials does your laboratory report?

When testing fecal isolates of Salmonella and Shigella from an adult case of infection, what antimicrobials does your laboratory report?

Ampicillin

A quinolone

Azithromycin

Trimethoprim-Sulfamethoxazole (SXT)

Chloramphenicol

A 3rd generation cephalosporin

Discussion:

The following specific information for isolates of Salmonella and Shigella is provided in the Clinical and Laboratory Standards Institute (CLSI) guidelines:

When fecal isolates of Salmonella and Shigella spp. are tested, only Ampicillin, a fluoroquinolone, and Trimethoprim-sulfamethoxazole should be reported routinely. Chloramphenicol and a 3rd-generation cephalosporin should be tested and reported for extra-intestinal isolates of Salmonella spp. only.²

Additional considerations exist for pediatric cases because fluoroquinolones have not been approved by the US Food and Drug Administration for pediatric use. The policy of the American Academy of Pediatrics is:

The only indications for which a fluoroquinolone (i.e., ciprofloxacin) is licensed by the US Food and Drug Administration for use in patients younger than 18 years are complicated urinary tract infections, pyelonephritis, and post-exposure treatment for inhalation anthrax.³

Answers:

The correct antimicrobial choices for fecal isolates of Salmonella and Shigella are:

Adults - Ampicillin, a fluoroquinolone, and Trimethoprim-Sulfamethoxazole

Pediatrics - Ampicillin and Trimethoprim-Sulfamethoxazole.

¹ CLSI M100-S19 Pg 26

² CLSI M100-S19 Pg 29

³ PEDIATRICS Vol. 118 No. 3 September 2006, pp. 1287-1292 (doi:10.1542/peds.2006-1722), available online at <http://pediatrics.aappublications.org/cgi/content/full/118/3/1287>.