

1645. Do asymptomatic carriers of toxigenic *Clostridium difficile* identified through inappropriate testing represent a significant risk for transmission?

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Background. Inappropriate testing may result in false-positive diagnoses of *Clostridium difficile* infection (CDI) due to detection of asymptomatic carriers of toxigenic *C. difficile*. It has been proposed that carriers identified through inappropriate testing may contribute to transmission. However, the risk for transmission by carriers identified through inappropriate testing is unclear.

Methods. During a 1-year period, we determined the proportion of CDI cases in our facility attributable to inappropriate testing and tested the hypothesis that inappropriately tested patients present a significant risk for shedding of spores. For inpatients with PCR assays from unformed stools, chart review and interviews were conducted to assess symptoms of CDI. CDI testing was deemed inappropriate if the patient did not

have diarrhea (>3 unformed stools/24 hours) or if diarrhea was present but with an alternative cause (e.g., laxatives) in the absence of prior antibiotics. For inappropriately tested patients, we compared the frequency of shedding in those with or without prior antibiotic exposure.

Results. Of 134 CDI patients, 30 (22%) were deemed to have inappropriate testing. Skin and/or environmental shedding occurred in 33/58 (57%) CDI cases with appropriate testing vs 5/30 (17%) with inappropriate testing ($P = 0.003$); for inappropriately tested patients with positive CDI test results, skin and/or environmental shedding was significantly more common for patients who had received prior antibiotics vs those not receiving prior antibiotics (5/11, 45% vs 0/19, 0%; $P = 0.003$). Of the 30 inappropriately tested cases, 20 (67%) had received prior laxatives.

Conclusion. Nearly one-fourth of CDI cases were diagnosed through inappropriate testing. These cases may represent asymptomatic carriers of toxigenic *C. difficile* with unformed stools or diarrhea for other reasons. Shedding of spores was relatively infrequent among cases diagnosed through inappropriate testing, particularly those who had not received prior antibiotics.

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