Effective Utilization of Evolving Methods for the Laboratory Diagnosis of Clostridium difficile Infection

To the Editor—I read the very well-written article by Kufelnicka and Kirn [1] with great interest and find that 2 issues require further explanation.

First, as mentioned in the article, there is currently no evidence that genotypic characterization of Clostridium difficile is useful for clinical management of C. difficile infection (CDI). However, a recent study published by Louie et al [2] compared the efficacy of fidaxomicin with that of vancomycin in treating CDI and found that the rates of cure and recurrence of CDI by B1/NAP1/027 strain were same when treated with fidaxomicin or vancomycin, but the rate of recurrence of CDI by non-B1/NAP1/027 was significantly lower when treated with fidaxomicin. Because fidaxomicin is now approved by the Food and Drug Administration and is more expensive and efficacious than vancomycin in preventing recurrent CDI by non-B1/NAP1/027, genotyping C. difficile before using fidaxomicin may become more cost-effective in the future.

Second, while explaining the diagnostic algorithm in Figure 1 of the Kufelnicka and Kirn article [1], the authors suggested that if enzyme immunoassay is positive for glutamate dehydrogenase and negative for toxin(s), cell cytotoxicity neutralization assay (CCNA) or nucleic acid amplification test (NAAT) should be done in step 2. Positivity of CCNA indicates the presence of toxin(s), and positivity of NAAT indicates the presence of target toxin gene(s). When enzyme immunoassay is negative for toxin(s) and NAAT is positive for toxin gene(s), it indicates the presence of toxigenic C. difficile but does not confirm toxin production. Reporting the test result as positive in this situation will result in misdiagnosis for some patients. Confirmation of the presence of toxin(s) by CCNA, not just presence of toxin gene(s) by NAAT, will reduce the number of false-positive results.

Note

Potential conflicts of interest. Author certifies no potential conflicts of interest.

The author has submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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References