

Session: P097 Understanding and managing Clostridium difficile

Category: 2d. Abdominal/gastrointestinal, urinary tract & genital infections

25 April 2017, 12:30 - 13:30
P2021

Clostridium difficile infection underdiagnosis: a prospective cohort study

Guido Granata^{*1}, Maria Adriana Cataldo², Elena Garavelli¹, Silvia Darezzo³, Chiara De Giuli³, Antonella Vulcano³, Carolina Venditti⁴, Nicola Petrosillo¹

¹L. Spallanzani National Institute for Infectious Diseases; Clinical Department

²National Institute for Infectious Diseases; Clinical Department; Clinical Department

³L. Spallanzani National Institute for Infectious Diseases; Microbiology Laboratory

⁴Inmi; Inmi; Microbiology Laboratory

Background: Clostridium difficile (CD) is the main cause of nosocomial infectious diarrhea. CD infection (CDI) underdiagnosis may delay the establishment of the adequate therapy leading to higher complication rate and may contribute to increase CD spread within the hospital setting. The aim of our study is to assess the rate of CDI underdiagnosis, either community- or hospital-acquired, in patients with diarrhea in an acute care hospital.

Material/methods: From November 2015 to October 2016, all adult patients presenting with diarrhea in our 200-bed acute care hospital were prospectively enrolled in the study. Demographic data, onset of diarrhea, admissions in healthcare settings or exposure to healthcare procedures in the previous 3 months, healthcare worker status and history of CDI in a family member were ascertained. Charts were reviewed for assessing stool testing requested by the clinicians, and for each patient an additional stool sample was collected. Community-onset healthcare-associated diarrhea was defined as onset of symptoms <48 hours from admission in patients with the following risk factors: hospitalization/ healthcare procedures in the previous 3 months, healthcare worker status. GDH plus toxins assay, PCR and culture for C. difficile were performed on each collected stool samples, whether or not treating physicians requested them.

Results: During the study period, 2,159 patients were admitted in our hospital, 202 (9.3%) of them had diarrhea and were enrolled in the study. Data were analyzed on 175 episodes. One hundred twenty (68%) patients presented diarrhea at hospital admission and 55 (32%) developed diarrhea ≥48 hours from admission. In the community-onset group, 66/120 (55%) and 54/120 (45%) presented with

community- (CA) and healthcare-associated (HA) diarrhea, respectively. Overall 41 cases of CDI (23.4%) were diagnosed. In the community-onset group, 33 patients were diagnosed with CDI: 11/33 (33.3%) were CA and 22/33 (66.7%) HA. In the CA group, CD test was not requested by the clinician in 14/66 (21.2%) cases. In the nosocomial onset group 8/55 (14.5%) samples were CD positive. CD test was not requested in 6/55 samples (11%). Overall, of the 23/175 (13.1%) stool samples for which CD testing was not requested, laboratory was able to detect CDI in 2 (1.1%) cases, both of them in the CA group. Regarding risk factors for CDI in these cases, 9 were exposed to antibiotics, 5 were hospitalized in the previous 3 months, 2 performed a gastroscopy.

Conclusions: We diagnosed CDI in a quarter of patients with diarrhea admitted in our hospital, and around a quarter of them were CA. In our study, CDI underdiagnosis was not negligible; indeed, in CA-diarrheas, 3 CDI cases per 100 patients would have been missed. Efforts should be made to optimize CDI diagnosis. Work supported by Ricerca Finalizzata.

