

O0261 Identification of recurrent *Clostridium difficile* infection: the importance of surveillance data

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Background: *Clostridium difficile* infection (CDI) is a serious medical condition, associated with a substantial morbidity and mortality, as well as costs, particularly in recurrent cases. 10% to 30% of patients will experience CDI recurrence within 2 months of an initial episode. The aim of this study was to estimate the rate of recurrence using microbiological and surveillance data.

Materials/methods: A prospective, observational study was conducted in a French university hospital. Inpatients aged 18 years or older suffering from CDI were asked to participate. The patients included in the study were actively followed, up to 60 days after CDI testing. Microbiological confirmation of CDI was done using a 2 step algorithm: a combined immunochromatographic test of GDH and toxins (C. DIFF QUIK CHEK COMPLETE®, Alere) coupled with PCR (GeneXpert® Systems, Cepheid). PCR was only performed when the screening test was positive and the toxins were negative.

Results: Between January 2015 and June 2017, 3802 stool samples (2765 patients) were tested for CDI. The presence of toxigenic *C. difficile* was detected in 300 samples (244 patients), representing a prevalence of 8.8%. Free toxins were present in 47% of diarrheal samples while the other episodes were confirmed by PCR. The number of tests performed during the same CDI episode ranged from one to five with an average of 8 days between initial and second tests. The analysis of microbiological data showed that 32 patients (13.1%) had recurrences whereas our prospective surveillance data estimated this rate of 5.3%. No epidemic strain 027/NAP1/BI was detected during the study period.

Conclusions: The management of CDI recurrence is challenging in clinical practice. Several studies, using laboratory and/or administrative database, reported a rate of recurrence between 5 and 35%. This variation is related to several factors: design and study population, sensitivity of used tests, local ecology,...The use of laboratory data alone without individual case confirmation by chart review cannot be recommended for identifying recurrent CDI since it can be associated with an overestimation of the rate of CDI recurrence.