

**P0290 Prospective study of *Clostridium difficile* infection in a tertiary care hospital in northern Italy**

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**Background:** *Clostridium difficile* infection (CDI) is the most frequent cause of hospital-acquired infectious diarrhea. In order to understand CDI burden in our Hospital, we built a prospective clinical surveillance system.

**Materials/methods:** Prospective, single center observational study between 2014 and 2016 at University Hospital in Modena, Northern Italy. The infection control team shared all information about CDI cases (colonization vs infection vs recurrence) using a specific database, as part of a vast infection control program (ICP). Traditional categorical and continuous variables related to CDI were analyzed in univariate analysis, and those with  $p \leq 0.05$  entered a multivariate model using multinomial logistic regression analysis.

**Results:** A total of 298 patients were prospectively included in the surveillance database. Colonization, first infection and recurrence cases were 31 (10.4%), 259 (86.9%), 8 (2.7%) respectively. Two hundred sixty-one (87.5%) presented with enteritis, 5 (1.7%) with pseudomembranous colitis (PMC), and 1 (0.3%) with severe sepsis. Regarding therapy: 149 (55.8%) patients received oral vancomycin, 82 (30.7%) metronidazole, 17 (6.4%) the association of both. Comparing colonisations vs first infections the statistically significantly different variables were: age > 65 yrs, CD roommate, OLTx as immunodepression cause, and current antibiotic use. In the multinomial logistic regression, the only variable significantly associated with infection was CD positive roommate. Comparing infections vs recurrences, the only statistically significantly different variables were: age, admission in onco-haematology wards, previous antibiotic use, current use of quinolones and carbapenems. Younger patients (aged < 65 years) had a significantly higher rate of CD colonizations compared to older ones who had a significantly higher rate of first CDI. Incidence of CDI dramatically decreased between 2014 and 2016 (Figure 1).

**Conclusions:** The use of a prospective clinical database integrated by epidemiological, microbiological and clinical data allowed to better identify the clinical characteristics of CDI and the correlations with traditional risk factors. The role of CDI-positive roommates underlined the importance of implementing contact precautions, as single room isolation in order to prevent cross-transmission. A standardized and prospective surveillance system followed by active ICP represents a strategic instrument for CDI control in hospital setting.

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