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**Publication Only**

**Infection Control: Clinical epidemiology of nosocomial infections**

**Recurrent *Clostridium difficile* infection (CDI) in a district general hospital in the United Kingdom**

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Objectives:

Symptomatic recurrence of *Clostridium difficile* infection (CDI) occurs in approximately 20% of patients. Recurrence could be due to relapse or reinfection. Study objective was to look at patients with recurrent CDI from April 2012-March 2013 in our health economy, to determine the risk factors for recurrences and to see if the new episode was relapse or reinfection.

Methods:

The data on faeces specimens tested for CDI were obtained from laboratory Telepath system. All diarrhoeal faecal specimens from patients aged >2 years were tested, unless the patient had a positive report in the previous 28 days. Techlab® C.DIFF CHECK™ – 60 ELISA was used to screen for GDH followed by Techlab TOXIN A/B QUICK CHEK® on GDH positive specimens. All GDH positive specimens were cultured on Brazier's medium. Oxoid *C. difficile* latex kit and Techlab TOXIN A/B QUICK CHEK® EIA were used to confirm identification and toxigenicity. *Clostridium difficile* ribotyping network (CDRN) at HPA Southampton laboratory did ribotyping on some of the isolates. Clinical details on patients were retrospectively obtained from the hospital electronic discharge summary database or from the community infection control team.

Results:

354 episodes of CDI were reported by microbiology laboratory during the study period. 83 episodes in 36 patients, 47 of these were recurrences (13.27%), 16 male and 20 female patients. 26 (72%) patients had once, 9 had twice and one patient had recurrence three times. 75% patients were >65years, in 47% of episodes use of antimicrobial therapy other than for CDI and proton pump inhibitors in 26% of episodes were the major risk factors. Common ribotypes among our isolates were 015, 014, and 078 forming 11 (13%), 10 (12%) and 10 (12%) episodes respectively. In 22/36 patients whose isolates were ribotyped there were 17 (36%) episodes of relapse and 10 (21%) episodes of reinfection. Depending on severity of CDI, 22 (26.5%) episodes were treated with oral metronidazole, 20 (24%) with oral vancomycin and one with oral fidaxomicin.

Conclusion:

Study found that majority (75%) of our patients with recurrence was >65years of age and a higher rate (36%) of recurrence was caused by the same ribotype as the original episode.