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O0330 Asymptomatic Clostridium difficile colonization and risk of CDI: a multicentre study

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Background: Patients asymptomatically colonised with *C. difficile* on admission to a hospital are thought to be at higher risk of developing *Clostridium difficile* infection (CDI) during admission. However, as length of hospital stay is nowadays often reduced and more patient care is currently provided in the outpatient setting, we performed long-term follow-up of *C. difficile* colonised patients in order to estimate the risk of developing CDI beyond the hospital admission.

Materials/methods: A multicentre cohort study was performed in 3 university hospitals across different regions in the Netherlands. Adult patients admitted to medical or surgical wards were enrolled from January 2015 to November 2016. Stool specimens or rectal swabs were collected (preferably within 72 hours of admission to the hospital) and cultured for *C. difficile*. For rectal swabs, an additional culture after broth enrichment was performed. Colonised patients and controls (the 3 consecutive patients who submitted samples for the study) were approached with questionnaires to report diarrheal symptoms and CDI episodes that potentially occurred during the first month and first year after sample submission, respectively.

Results: Thirty-seven colonised patients (including 5 patients who were found to be colonised more than 72hrs after admission) and 109 controls were enrolled. Thirty-day follow-up was available for 37/37 (100%) colonised patients and 106/109 (97.2%) controls. Diarrhea during the first month after sample submission was common both among colonised patients (40.5%) and controls (32.1%, p=0.56), but no CDI was diagnosed. One-year follow-up was available for 25/37 (67.6%) colonised patients and 80/109 (73.4%) controls. At least one diarrheal episode was experienced by 48.0% of colonised patients and 43.8% of controls (p=0.71). CDI was diagnosed in 1/80 (1.3%) of the controls but in none of the colonised patients (p=0.57). However, one colonised patient (colonised by PCR ribotype 078) tested weakly positive for *C. difficile* toxins 1.5 months after enrolment but did not fulfil the criteria for CDI diagnosis and received no CDI treatment.

Conclusions: In this multi-centre study, patient colonised by *C. difficile* at hospital admission were not at an increased risk of developing CDI within the first year after sample submission.