

O311

Abstract (oral session)

Longitudinal trends of rectal carriage with antibiotic-resistant bacteria during Selective Digestive tract Decontamination and Selective Oropharyngeal Decontamination: preliminary results of a cluster-randomised cross-over study

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Objectives: Selective Digestive tract Decontamination (SDD) and Selective Oropharyngeal Decontamination (SOD) are associated with improved patient outcome and lower carriage rates of antibiotic-resistant bacteria (ARB) in ICU-patients in the Netherlands. In both regimens patients receive oropharyngeal decontamination with colistin and tobramycin (4/daily). In SDD (but not in SOD) patients receive intestinal decolonization (colistin and tobramycin (4/daily)) and a 4-day course of cefotaxime. We determined unit-wide effects of SDD and SOD on intestinal carriage with ARB in a 16-center cluster-randomized cross-over CRCO study in the Netherlands, comparing 12 months of SDD and SOD. Methods: All patients with an expected ICU-stay of >48hrs were eligible to receive SDD/SOD. Once monthly a rectal sample was obtained from all ICU-patients, whether or not they received SDD/SOD, to determine prevalence of rectal carriage with ARB. Swabs were inoculated on selective media supplemented with either colistin, tobramycin, vancomycin and a chromogenic ESBL agar. This preliminary analysis included 265 of the planned 384 point prevalence surveys (69%): 130 during SDD and 135 during SOD, from 14 hospitals. Results: In total 2427 patients were included; 1135 during SOD and 1292 during SDD. Completeness of culturing was 92% based on 100% quality control checks. During SOD 37% of the patients had growth on selective media with Enterobacteriaceae (550 isolates) or *Pseudomonas aeruginosa* (PA) (115 isolates) as compared to 22% during SDD ($p<0.01$) (344 and 62 isolates, respectively). Prevalences of ARB were higher during SOD as compared to SDD; 6% vs 4% ($p=0.02$) for ESBL-producing GNB, 14% vs 8% ($p<0.01$) for aminoglycoside and 12% vs 7% for ciprofloxacin resistance ($p<0.01$), respectively. Yet, colistin resistance was more prevalent during SDD; 1.1% during SOD as compared to 1.6% during SDD ($p=0.30$). During 12 months of SDD a gradual increase in aminoglycoside resistance and ESBL-prevalence in time was observed (beta-coefficients 0.16 ($p=0.05$) and 0.27 ($p=0.05$) respectively). During SOD resistance levels remained stable. Vancomycin resistant Enterococci were isolated twice, once during SOD and once during SDD. Conclusion: This unit-wide analysis in 14 Dutch ICUs found lower resistance prevalence during SDD as during SOD, yet a statistically significant increase in the prevalence of ESBL-producing and of aminoglycoside-resistant gram-negatives was found during the 12 months that SDD was used.