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Abstract (oral session)

Medical and economic adverse effects of a national policy to control the spread of highly resistant micro-organisms

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Objectives. In France, the detection of Carbapenemase-producing Enterobacteriaceae (CPE) and Enterococcus faecium resistant to Glycopeptides (GRE) leads to interruption of transfer pending results of extensive detection of carriage in contact patients (Pts). These national recommendations often discourage downstream healthcare facilities to admit colonised Pts with potential delay of transfer. We evaluated the effect of this “search and isolate” strategy on hospital stays of colonised Pts and additional hospital costs. **Methods.** We performed a matched case control study in a 1000-bed University Hospital. From 2009 to 2012, 26 surviving case Pts colonised either with GRE (n=14) or CPE (n=12) and 81 surviving Pts never identified as carriers (Control Pts) were matched on age, ward, gender and diagnosis-related group (DRG). Clinical, microbiological, hospital stay characteristics and hospital charges were retrospectively collected. Factors associated with CPE or GRE carriage were evaluated using univariate analysis; their adjusted association with length of stay (LOS) was estimated using a multiple linear regression. Additional costs due to CPE or GRE were estimated by multiplying the individual extra LOS by the national daily cost per DRG in 2010. **Results.** Overall, the median age of the 107 Pts was 65 years, and 42% were female. The Charlson comorbidity score was 6 (IQR, 4-7) and 4 (3-6) in cases and controls Pts, respectively (p=0.1); McCabe score was similar between both groups (p=0.55). Among case Pts, 14 were from a cluster, and 12 were single cases, with 14 (54%) identified at hospital admission screening of Pts repatriated from a foreign hospital. The median time from admission to identification of GRE or CPE was 11.5 (7-20) days. Among case and control Pts, 23 (88%) and 68 (84%) were discharged home (p=0.57), respectively. The mean- median (IQR) LOS was 62-28 (12-94) days in case Pts and was 18-11 (8-18) days in control Pts (p<0.001). The mean cost of hospitalisation was 26,299€ for cases and 11,230€ for controls. Case Pts had a 44-day mean excess hospital stay and a 7392€ mean attributable extra costs. **Conclusion.** Stringent measures to control the spread of CPE and GRE have a major impact on LOS, likely because of delay in transferring these dependent Pts in downstream units. This extra LOS could lead to inappropriate care and important extra costs.