

Session: P073 Disinfection and biocides

Category: 8f. Disinfection & biocides

24 April 2017, 13:30 - 14:30
P1483

Duodenoscopy involved in a carbapenemase-producing Enterobacteriaceae outbreak in a gastroenterology intensive care unit: myth or reality ?

Céline Bourigault¹, Nathalie Bodet², Nathalie Ferronniere³, Florence Le Gallou⁴, Nicolas Musquer², Wiesel Sophie³, Marie-Emmanuelle Juvin³, Stephane Corvec⁵, Jérôme Gournay⁶, Le Rhun Marc⁶, Didier Lepelletier^{*7}

¹*Nantes University Hospital; Infection Control*

²*Nantes University Hospital; Endoscopy Department*

³*Nantes University Hospital; Bacteriology and Hospital Hygiene Department*

⁴*Chu de Nantes; Laboratoire; Bacteriologie et Hygiene*

⁵*Nantes University Hospital; Department of Bacteriology*

⁶*Nantes University Hospital*

⁷*Nantes University Hospital; Bacteriology and Hospital Hygiene*

Background: Carbapenemase-producing Enterobacteriaceae (CPE) have become a major problem for healthcare settings. In October 2015, two cases of OXA-48 CPE were identified in patients hospitalized in the gastroenterology intensive care unit (ICU) of a university hospital (cases 1 and 2, Table 1). These patients underwent an endoscopic retrograde cholangiopancreatography (ERCP) with the same duodenoscope TJF-Q180V Olympus.

Hypothesis of contamination: 1/ cross transmission in the gastroenterology ICU, 2/ cross transmission secondary to the use of a contaminated duodenoscope. We report the epidemiological and microbiological investigations conducted to determine the origin of these contaminations.

Material/methods: 1/ Investigations conducted in the gastroenterology ICU : retrospective review and prospective surveillance of CPE contact patient for screening, contact isolation of CPE carriers; 2/ Investigations conducted on the duodenoscope TJF-Q180V Olympus :sequestration and microbiological sampling, review of reprocessing procedures, identification and screening of patients

who underwent ERCP with the duodenoscope between December 2014 and November 2015, 3/ Molecular typing of CPE strains isolated, 4/ Alert to health authorities.

Results: During gastroenterology ICU hospitalizations of CPE carriers, 247 contact patients were identified. Among them, 59 were screened for CPE carriage, all were negative. The duodenoscope used in October 2015 in both patients for an ERCP was confined in November 2015. The duodenoscope was sampled three times with different methods but OXA-48 CPE was not detected. Reprocessing records were reviewed: they were compliant with our institutional practices. Between December 2014 and October 2015, 47 patients underwent ERCP with the same duodenoscope. 13 patients were rehospitalized after exposition and screened: 2 patients who underwent ERCP in October 2015 were positive (cases 3 and 4, Table 1) for OXA-48 CPE detection. These 2 new cases were not hospitalized during the same periods of hospitalization as the cases 1 and 2.

Conclusions: Overall, 4 cases of EPC OXA-48 were identified in patients from gastroenterology pathway. The duodenoscope was the only epidemiological link between these cases. We suggest that this duodenoscope has become transiently contaminated following its use for known CPE carriers (Figure 1). Since the endoscope samples were negative, we cannot confirm this hypothesis. Similar cases have been reported in the literature with TJF-Q180V Olympus, due to reprocessing difficulties of the immovable distal part. Special attention must be given to maintain efficient reprocessing of these endoscopes. **Table 1** – Clinical characteristics of CPE carriers

Case	Sex	Age	Date of CPE positive sample	Type of sample	Date of ERCP with the duodenoscope TJF-180V Olympus
1	M	68	10/30/2015	Clinical	10/20/2015
2	M	75	11/03/2015	Screening	10/22/2015
3	M	27	12/08/2015	Screening	10/22/2015
4	M	81	01/06/2015	Screening	10/23/2015

Figure 1 – Description of CPE outbreak and its association to duodenoscopy

