**P0975**
**Paper Poster Session**
**Non-culture diagnostics for Gram-positives**

## Impact of swab model on Xpert® vanA/vanB PCR assay performances

Saida Rasoanandrasana[1], Laurent Raskine[1], Jean-Winoc Decousser[2], Cecilia Domrane[3], Vincent Fihman[3], Herve Jacquier*[1], Emmanuelle Cambau[4]

[1]*Hôpital Lariboisière, Service de Bactériologie-Virologie, Paris, France*

[2]*Centre Hospitalier Universitaire Henri-Mondor, Assistance Publique - Hôpitaux de Paris, Department of Microbiology, Creteil, France*

[3]*Centre Hospitalo-Universitaire Henri Mondor, Département de Microbiologie, Créteil, France*

[4]*Hôpital Lariboisière, Service de Bactériologie-Virologie, Paris , France*

**Background:** Prevention of dissemination of glycopeptide-resistant enterococci (GRE) is a major task in infection control. The Xpert *vanA/vanB* PCR assay has excellent performance in screening for rectal carriage of GRE. It requires the use of a double-swab (LQ STUART, Copan) incompatible with our clinical microbiology laboratory work-flow. In our laboratory, we routinely use swabs coupled with a transport medium (Amies Eswab LQ, Copan). Their use in detecting GRE by PCR Xpert *vanA/vanB* has never been evaluated. In this study, we compared how the two types of swabs impact the performance of the GeneXpert PCR.

**Material/methods:** We prepared suspensions of feces contaminated with GRE from a collection of 10 non epidemiologically related strains. These strains harbored the *vanA* gene (n= 6), the *vanB* gene (n=3), or the two genes (n=1).
For each of these strains, 3 dilutions were done: $10^6$, $10^4$ and $10^2$ CFU/mL. Two samples were collected from each dilution, one with each swab. The Xpert *vanA/vanB* assay was performed for each. To do this, the double-swabs were discharged directly into the sample buffer for the PCR, whereas for the Eswab, 100 µl of transport medium were diluted in the sample buffer.
In addition, we evaluated the sensitivity of Xpert *vanA/vanB* using the two types of swabs directly on feces from 10 patients colonized by GRE.

**Results:** 9 out of the 10 different strains diluted into feces down to a concentration $10^2$ CFU/ml, the sensitivity threshold was $10^4$ CFU/mL for both swabs. For one strain, the limit of detection was different: $10^4$ CFU/ml with the double-swab and $10^6$ CFU/mL with the Eswab.
For the 10 patients tested, a complete match was observed with the two approaches.

**Conclusions:** The results show marginal difference in the performance of the Xpert *vanA/vanB* assay. They confirm the possibility to use of the Eswab in routine without major impact on clinical results. This approach is of particular interest as it enables us the concomitant search of GRE and carbapenemase-producing enterobacteria from the same swab.