Session: 65. Pathogenesis and Immune Response
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Background. Sequence type (ST) 17 of non-encapsulated Enterococcus faecium (VREF) is known to be associated with nosocomial isolates. However, there is no evidence of the effect of ST17 VREF on the patient’s clinical outcome. We conducted a retrospective cohort study to identify ST17 VREF would contribute to developing subsequent bacteremia among VREF-colonized patients.

Methods. VREF-colonized patients and its non-encapsulated rectal VREF isolates were collected between March 2014 and February 2015. Subsequent bacteremia event within 1 year after colonization was reviewed from electronic medical records. STs were identified by multi-focus sequence typing. Cohort was defined as VREF with ST17 or non-ST17. Multivariable cox regression model was used to adjust effect of ST17 for developing subsequent bacteremia. If available, pulsed field gel electrophoresis (PFGE) was conducted to compare similarity between rectal and blood VREF isolates.

Results. Fifty-two patients with ST17 and 169 patients with non-ST17 VREF carriage were included in each cohort. There were six cases and 10 cases of subsequent bacteremia in cohorts ST17 and non-ST17, and 1-year VREF bacteremia free rates were 85.9% and 90.2%, respectively. There was no significant difference of subsequent bacteremia (P = 0.257) in log-rank test. However, after adjusted in multivariable models, VREF ST17 was associated with subsequent bacteremia (adjusted relative risk, 4.02; 95% CI, 1.32–12.29, P = 0.015). Of 16 patients who had developed to subsequent VREF bacteremia, 12 VREF blood isolates could be analyzed. Only six cases (50%) of rectal and blood isolates had identical ST, whereas all available ST17 VREF cases (four cases) had identical ST and PFGE pattern (Figures 1 and 2). Patients who had identical ST isolates had shorter time difference than those who had non-identical ST isolates (P = 0.041).

Conclusion. In our study, ST17 VREF was risk factors of subsequent bacteremia and the strain that showed strong concordance between rectal and blood isolates. Further study is needed to improve clinical outcomes of patients carrying VREF using genotype data of rectal VREF isolates.

Figure 1:

Figure 2:

Disclosures. All authors: No reported disclosures.

650. Genomic Analysis of Shiga Toxin-producing Enterococci faecium from Symptomatic Patients and Asymptomatic Carriers
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