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P1478 Yersiniabactin as a promoter of mortality of infections caused by colistin-resistant *Klebsiella pneumoniae* ST101

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Background: ST101 clone of *Klebsiella pneumoniae* has become global concern because of multi-drug resistance profile of the bacterium and high fatality rates of infections. In recent years, high antibiotic resistance of ST101 clone was reported in several studies from Mediterranean and Middle East Regions and Turkey as well. The aim of the study is to determine major virulence factors of ST101 *K. pneumoniae* and to assess their association with outcomes of the patients.

Materials/methods: A total of 142 patients with *K. pneumoniae* infections from several centers in Turkey between 2015 and 2018 years were included. Patients' clinical and demographic data were recorded. The clonality of the isolates was analyzed and all of them were genotyped by Multilocus Sequence Typing (MLST). Then, 13 virulence factors which are related with capsule (*rmpA, K2wzy, K5wzx),* fimbria (*fimH, mrkD*), yersiniabactin siderophore (*ybtS*), siderophore enterobactin (*entB*), aerobactin receptor (*iutA*), iron transport and phosphotransferase function (*kfu*), yersiniabactin receptor (*fyuA),* allontoin metabolism (*allS*), LPS production (*wabG*), mucoviscosity (*magA*) were detected by PCR.

Results: In total 142 isolates, 80 (56.3%) were identified as ST101 high risk clone. Thirty-day mortality was higher in patients infected with ST101 (70%) than non-ST101 isolates (48%), (p=0.01). Patients with ST101 infection developed more pneumonia than non-ST101 infected patients (55% vs 37%), (p=0.042). Among virulence genes, the proportion of yersiniabactin gene *ybtS* (98,8%), yersiniabactin receptor gene *fyuA* (98,8%), and mucoviscosity gene *rmpA* (88,8%) were found to be significantly higher in ST101 isolates (compared to Non-ST101 67,7%, 67,7%, 72,7%; p=0.0, p=0.0, and p=0.017, respectively). Being in ICU, having pneumonia, ST101 infection, and presence of *fyuA* gene were directly associated with 30-day mortality (p=0,003). The presence of OXA-48 was significantly higher in ST101 clone (96,2% vs 66,1%), but NDM-1 positivity was higher in non-ST101 isolates (3,8 % vs 45,2 %).

Conclusions: In conclusion patients that were infected with ST101 type *K. pneumoniae* have significantly more 30-day mortality rate and more pneumonia. These clinical outcomes might be caused by iron uptake system of ST101.