

Cystic fibrosis is an autosomal recessive genetic disorder, which is caused by mutation in CFTR gene (Cystic Fibrosis Transmembrane Conductance Regulator). This gene encodes protein with the same name, which is responsible for pathogenesis of CF. Cystic fibrosis is characteristic for frequent infection of respiratory system, which causes, destruction of lung tissue. These infections are characterized by occurrence of typical bacterial pathogens, for example: *S. aureus*, *P. aeruginosa* etc.

*S. aureus* is one of the most typical opportunistic pathogens, which causes serious difficulties in patients with the cystic fibrosis. Strains of *S. aureus* are characterized by production of multiple virulence factors and resistance to broad spectrum of antibiotics. Besides common mechanisms of resistance there is also possibility of emergence of so called Small Colony Variants in chronically infected patients. These resistant subpopulation is relatively common among *S. aureus* isolates of patients with CF.

The aim of this work was to study isolates from three patients with cystic fibrosis, who are chronically infected by *S. aureus*. Our goal was to determine changes in the pattern of the antibiotic resistance and occurrence of virulence factors together with description of SCV strains.