

Category : **Sepsis/septic shock: management**

**A173 - Co-infections and superinfections in covid-19 patients – is there any argument of antimicrobial use?**

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### **Introduction:**

The outcome of patients with viral respiratory infections may be affected by the simultaneous bacterial infection occurrences. Considering the widespread overuse of antibiotics during coronavirus disease-2019(COVID-19) pandemic, the rate of co-infections and/or superinfections in patients infected with the novel severe acute respiratory distress syndrome-coronavirus-2 (SARS-CoV-2) remains to be elucidated.

### **Methods:**

In order to evaluate the emerging rate of bacterial co-infections and/or superinfections, defined according to Centers for Disease Control and Prevention criteria, we performed a retrospective, observational study that included 157 critically ill patients with severe SARS-CoV-2 infection. Survival rate and the main risk factors were also analyzed in the study group.

### **Results:**

In the study group, only 33.12% met the criteria for coinfection and 15.92% (n=25) for superinfection. Survival rate evaluated based on the analysis of Kaplan Mayer curves highlighted that patients with co-infections have a median survival of 8 days vs. 18 days for those with superinfections,  $p=0.0074$ . Patients suffering from diabetes mellitus registered an increase of superinfections rate (chi-squared=6.295,  $p=0.01$ , OR=2.97). Moreover, patients previously treated with remdesivir recorded a higher risk of superinfections (coefficient=1.26,  $p=0.02$ , OR=3.55).

### **Conclusion:**

The rate of co-infections and/or superinfections in COVID-19 patients is rather low, therefore the rationale of the antimicrobial therapy use should be reconsidered. As already stated, co-infections are associated with a poorer survival rate in patients with severe viral respiratory infections, even with the novel coronavirus. The main risk factors for hospital-acquired superinfections in COVID-19 patients were diabetes mellitus and the use of antiviral therapy.