

Category : **Infections + antimicrobials**

**A112 - The usage of the immunosuppressant agents and secondary infections in patients with covid-19 in intensive care unit: a retrospective study**

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### **Introduction:**

It's known that immunosuppressant agents such as pulse methylprednisolone (PMP), dexamethasone (DXM) and interleukin-blockers (IL-B) are used in Covid-19 [1-3]. The aim of this study is to investigate the effect of these immunosuppressant agents on secondary infections in patients with Covid-19 in intensive care units (ICU).

### **Methods:**

This study was retrospectively designed and all data between March 2020 and October 2021 of six tertiary ICU was evaluated. All patients were divided by three groups as Group I (GI, no immunosuppressant or  $MP \leq 1.0 \text{ mg/kg}$ ), Group II (GII, PMP and/or DXM) and Group III (GIII, only IL-B and PMP and/or DXM). Demographic data, PaO<sub>2</sub>/FiO<sub>2</sub> (P/F) ratio, C-reactive protein (CRP) and procalcitonin, hemogram parameters, ferritin and d-dimer, culture results and outcomes were recorded. For comparison between GI-GII and GI-GIII, propensity score matching (PSM) was used by matching 14 parameters [age, gender, BMI, CCI, APACHE II, P/F ratio, CRP, procalcitonin, hemogram parameters, ferritin, d-dimer and invasive mechanical ventilation (IMV) requirements].

### **Results:**

412 ICU patients were included in the study (GI=118, GII=184, GIII=110). Mortality rates were 27.1%, 39.7% and 55.5% respectively. After PSM, in GII and GIII, the number of (+) tracheal cultures, (+) bloodstream cultures, detected different microorganisms during ICU period, neuropathy, tracheotomized patients, duration of IMV and length of ICU stay were significantly higher than GI. Mortality rate and (+) CMV-DNA-PCR were similar in GI and GII whereas they were significantly higher in GIII than GI.

### **Conclusion:**

The usage of immunosuppressant agents in Covid-19 causes increased secondary infections. Moreover, increased secondary infections appear as a reason for prolonged ICU stay and duration of IMV, and also, increased mortality.

### **References:**

1. Edalatfard M. et al. *Eur Respir J.* 2020; 6:2002808.
2. Horby P. et al. *N Engl J Med.* 2021; 8:693-704
3. Biran N. et al. *Lancet Rheumatol.* 2020; 2:e603-12