

**2021 –ANNUAL MEETING of the Belgian Society of Intensive Care Medicine (June 18, 2021)
ACCEPTED ABSTRACTS****Ref 2021-1806-13****Title : Antimicrobial use in COVID-19 patients treated with corticosteroids**

Authors : Kennes J. MD; Bongaerts T. MD; De Neve N. MD; De Mey N. MD; De Decker K. MD.

Institution : Department of anesthesiology and intensive care, OLV Hospital Aalst

Introduction

The management of COVID-19 patients changed over time as a result of the continuous search for better therapies. As in many centers, hydroxychloroquine and empiric antibiotic agents (amoxicillin-clavulanic acid and clarithromycin) were used at the OLV hospital Aalst (Belgium) during the first wave (March to June 2020). The use of hydroxychloroquine has not been recommended anymore for COVID-19 in Belgium since June 2020. During the second wave (September 2020 to January 2021) the treatment consisted of dexamethasone without antibiotic prophylaxis. The RECOVERY trial observed a lower 28-day mortality rate with the use of corticosteroids in patients receiving oxygen or invasive mechanical ventilation [1]. Corticosteroid treatment has possible adverse effects. The information on secondary infections related to corticosteroid treatment is scarce. Some authors observed more secondary infections and increased use of broad-spectrum antibiotics in the corticosteroid group [2]. In this retrospective observational study, the antimicrobial use before and after introduction of systematic corticosteroids was analyzed.

Objectives

Is there a difference in antimicrobial therapy in COVID-19 patients before and after systemic administration of corticosteroid therapy for critically ill COVID-19 patients?

Methods

We performed a retrospective analysis of all patients with COVID-19 admitted to the intensive care unit of the OLV hospital Aalst from 15/03/2020 until 19/01/2021 and searched for antimicrobial therapy and isolated microorganisms.

Results

Demographic data of the analyzed patients are presented in table 1. We could not observe a difference in overall antibiotic use between both cohorts, apart from protocol or participation to clinical trials (table 1). There are slight differences regarding individual antibiotics with an increased use of flucloxacillin and voriconazole during the second wave (table 1). Methicillin sensitive staphylococcus aureus (MSSA) was isolated in 14.29% of patients in the first wave compared to 28.72% of patients in the second wave ($p = .078$). Three cases of Aspergillus were observed in the second wave compared to none in the first wave.

Conclusion

We observed no difference in overall antibiotic use after the introduction of systemic corticosteroids. There is a trend toward more flucloxacillin and voriconazole use in the corticosteroid cohort. Further studies are needed to address this topic.

References

- [1] RECOVERY Collaborative Group, Horby P, Lim WS, Emberson JR, Mafham M, Bell JL, Linsell L et al. 2021. Dexamethasone in Hospitalized Patients with Covid-19. *N Engl J Med.* 384(8):693-704. doi: 10.1056/NEJMoa2021436.
- [2] Van Paassen J, Vos JS, Hoekstra EM, Neumann KMI, Boot PC, Arbous SM. 2020. Corticosteroid use in COVID-19 patients: a systematic review and meta-analysis on clinical outcomes. *Crit Care.* 24(1):696. doi: 10.1186/s13054-020-03400-9.