



ASPERGILLUS CO-INFECTION IN COVID-19 PATIENTS ON INVASIVE MECHANICAL VENTILATION

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Objective:

Invasive aspergillosis is a well-known complication in patients with severe viral pneumonia and is associated with poorer prognosis and increased mortality. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes damage to the airway epithelium, enabling aspergillus invasion. The risk of fungal infections is further increased by the use of immunosuppressive drugs.

We investigated the incidence of *Aspergillus* co-infection in patients with PCR-proven SARS-CoV-2 infection who required invasive mechanical ventilation (IMV). In the period from February 21 to



November 23, 2021, a total of 73 patients were mechanically ventilated. In all of them, bronchial aspirate and bronchoalveolar lavage were cultured for fungi once a week. *Aspergillus species* was isolated in 11 patients (15%), 7 women (64%) and 4 men (36%). Among the isolates of the *Aspergillus species*, *Aspergillus fumigatus* was the most commonly detected (81.8%). However, in all respiratory samples positive for *Aspergillus fumigatus*, mixed fungal infection with either *Aspergillus niger* (1 patient, 11%), *Aspergillus flavus* (2 patients, 22%), *Candida species* (6 patients, 67%) or *Trichosporon spp.* (1 patient, 11%) was detected. The median age of patients was 70 years (range 46 to 80). In 64% of patients co-infections with *Aspergillus* occurred within 5 days of onset of IMV. The most common comorbidities were arterial hypertension (73%), chronic renal failure (36%) and diabetes mellitus (27%).

In this study, we would like to highlight the importance of *Aspergillus* coinfection in critically ill COVID-19 patients. We believe that an early detection allows for timely treatment and better outcomes.