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Reply: Pulmonary aspergillosis in the Intensive Care Unit. An underdiagnosed disease? Active search protocol for pulmonary aspergillosis associated with COVID-19 pneumonia



Respuesta: Aspergilosis pulmonar en la unidad de cuidados intensivos: ¿una enfermedad infradiagnosticada? Protocolo búsqueda activa aspergilosis pulmonar asociado a neumonía COVID-19

We have read the interesting editorial by Estella¹ and agree with the author on the need to “look for in order to find”. Invasive pulmonary aspergillosis in particular constitutes an important complication in patients with acute respiratory distress syndrome (ARDS), particularly when secondary to influenza virus or SARS-CoV-2 pneumonia. Furthermore, as we have seen in recent years, the situation is no longer limited to oncohematological, transplant or immune suppressed patients. The mortality rate among patients presenting criteria of COVID-19-associated pulmonary aspergillosis (CAPA) is 44% versus 19% among non-CAPA patients, according to the study published by Bartoletti et al.²

In our Department, since August 2020, we have implemented an early active search protocol for pulmonary aspergillosis in patients with pneumonia due to SARS-CoV-2 and subjected to invasive mechanical ventilation.

The active search protocol consists of weekly serum galactomannan (GM) testing, calcofluor staining and bronchial aspirate (BAS) fungal culture in all SARS-CoV-2 pneumonia patients subjected to mechanical ventilation. Fibrobronchoscopy with fungal culture and GM determination in bronchoalveolar lavage (BAL) is performed if any of the above prove positive, or in the event of clinical worsening of the patient. The definition of CAPA is established retrospectively with the ECMM/ISHAM criteria³.

In the post-implementation analysis of this protocol in our series of 345 subjects admitted over a period of 16 months and diagnosed with SARS-CoV-2 pneumonia, a total of 90% of the patients were seen to require mechanical ventilation. The mean age was 60 years, and 69% were males. With regard to the severity scales, the mean SOFA score upon

admission was 6.4, with an APACHE II score of 16.5 and a SAPS II score of 19.5. A total of 8.7% ($n=30$) met the criteria of probable CAPA. Ninety percent of these subjects tested positive for GM in BAL, and 70% had positive culture and positive GM in BAL. The mortality rate in these patients was 23.3% versus 15.7% in the non-CAPA patients ($p = 0.3$, chi-square test)⁴.

We consider that this active search strategy has facilitated the diagnosis of CAPA, allowing early treatment and having a direct impact on the clinical course and prognosis of the disorder. In this respect, we detected two CAPA outbreaks in our Department, implementing a series of effective control measures that included the prophylactic administration of inhaled amphotericin B lipid complex in all patients during the outbreak⁵. Further, well-designed studies are needed to validate the active search and early intervention strategy on a protocolized and validated basis, to secure benefits in terms of morbidity-mortality among patients with CAPA.

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Conflicts of interest

The authors declare that they have no conflicts of interest

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