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Outcome of patients with non-COVID-19 related Aspergillosis during the COVID-19 pandemic

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Background

In March 2020 our hospital was reconverted to a COVID-19 attention center

January 2021, conventional attention reinstalled and hybrid atention started

Invasive aspergillosis occurs in immunocompromised patients

Objective and Methods

To describe clinical characteristics and outcomes in patients with Invasive Aspergillosis (IA) without COVID-19 during the pandemic

We compared with historic controls 2:1 from Invasive aspergillosis cohort (before COVID-19 pandemic)

We defined as IA with the EORTC/MSG criteria and the modified AspICU criteria

Results:

From March 2020 to December 2021, we found 27 Invasive Aspergillosis cases diagnosed in non-COVID-19 patients.

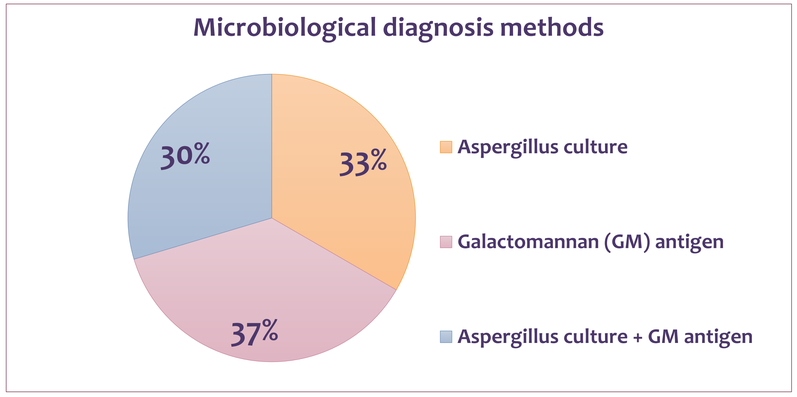

Figure 1. Mycologic criteria (microbiological diagnosis) in patients with IA without COVID-19 during pandemic.

Table 1. General and clinical characteristics in Invasive Aspergillosis (IA) patients without COVID-19 during COVID-19 pandemic vs historical controls.

Characteristics	IA during COVID-19* N=27 (%)	IA controls N=54(%)	P bivariate
Male sex	14(52)	21(39)	0.26
Age°	48(31-59)	44.5(27-55)	0.26
Hematological disease	12 (44)	29(54)	0.43
Rheumatic disease	6(22)	12(22)	1.0
Immunosupression	13(48)	13(32)	0.17
EORTC/MSG criteria	27(100)	48(89)	0.07
Proven IA	5 (18.5)	7(13)	0.52
Probable IA	22(81.5)	41(76)	0.57
Days from symptoms onset to diagnosis°	21 (6-68)	5 (3-10)	**< 0.001**
Positive serum GM antigen	6/17(35)	31/49(63)	**0.04**
Positive BAL GM antigen	12/16(75)	12/21(57)	0.26
Antifungal treatment	22(81)	50(92.5)	0.134
Days from symptoms to antifungal°	21(6-68)	5(3-10)	**0.0005**
Dead at 6 weeks	12(44)	22(41)	0.75

IA: Invasive aspergilosis, EORTC/MSG: European Organization for Research and Treatment of Cancer and the Mycoses Study Group Education and Research Consortium, Clinical Infectious Diseases® 2020;71(6):1367–76. GM: Galactomannan, BAL: bronchoalveolar lavage. *Patients with Invasive aspergillosis without COVID-19 during COVID-19 pandemic. °Calculated median with interquartile range.

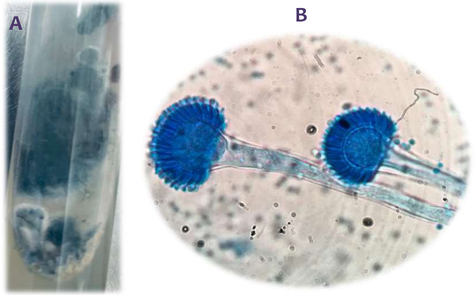

Figure 2. A *Aspergillus fumigatus* in Sabouraud agar and **B** *Aspergillus fumigatus* in 40x microscopy

Figure 3. Chest CT scan from patient with IA. We can observe a large nodule and cavity lesion in the right lung, multiple nodules, and ground glass opacities.

-Serum GM was requested less frequently, with significantly lower positivity in patients with IA during the pandemic

-We found no difference in mortality.

-IA group during the pandemic was a lower proportion of antifungal treatment.

-It is likely a consequence of hospital reconversion during the start of the pandemic.
-We need to reinforced the Aspergillosis diagnosis to improve the outcomes.

Conclusions

During the COVID-19 pandemic, patients with Invasive Aspergillosis withouth COVID-19 were diagnosed and treated significantly later when compared with pre-COVID-19 era.

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