

# 10th ADVANCES AGAINST **ASPERGILLOSIS AND MUCORMYCOSIS**

2 + 3 February 2022 VIRTUAL EVENT

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## Cerebral mucormycosis: a national study (France, 2005-2020)

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#### **BACKGROUND**

- Increasing incidence of mucormycosis infections:
   In France: 0.7 cases/million inhabitants in 1997 vs 1.2 in 2006 (Bitar, 2009)
   Emergence of COVID-19 associated mucormycosis in India
- - Frequent localization in immunocompromised r
- About mucormycosis of the CNS:
   Small and/or old provious studios

  - Mortality: 50 to 80% depending on the studies (Roden, 2005) (Lanternier, 2012)
- Uneasy invasive sampling (brain)
   Uneasy invasive sampling (brain)
   Different approaches between health-care settings
   Variable presentation (ROCM or haematogenous dissemination
  But essential rapid treatment (surgery and antifungal drug therapy)

### AIM

infections in France, according to the patients' background and the route of dissemination of the infection

#### **METHODS**

- Method for cases' collection: notification by correspondents from 24 French
- hospitals, following a call for observation
   Period of inclusion: 01/01/2005 to 12/31/2020

- EORTC modified criteria: any proven, probable or putative (microbiological
- (ROCM) or CNS infections due to haematogenous dissemination of
- Exclusion criteria
- Possible CNS mucormycosis

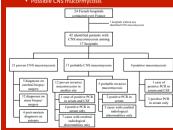
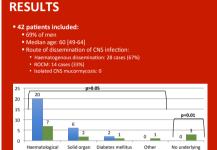


Figure 1 : flow-char

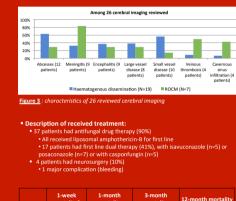


■Haematogenous dissemination ■ROCM

malignancy and/ transplant

Total	Haematogenous dissemination (N=28)	ROCM (N=14)	p-value
28 (74%)	20 (74%)	8 (73%)	0.93
7 (19%)	4 (17%)	3 (23%)	0.64
18 (49%)	14 (58%)	4 (31%)	0.11
1 (3%)	1 (4%)	0	0.46
9 (24%)	3 (13%)	6 (46%)	0.02
5 (14%)	1 (4%)	4 (31%)	0.05
11 (28%)	9 (33%)	2 (15%)	0.24
23 (58%)	18 (64%)	5 (42%)	0.19
33 (87%)	25 (89%)	8 (80%)	0.46
12 (75%)	7 (88%)	5 (63%)	0.26
7/11 (64%)	3/6 (50%)	4/5 (80%)	0.3
4/13 (31%)	2/6 (33%)	2/7 (29%)	0.86
2/4 (50%)	2/2 (100%)	0/2 (0%)	0.08
2/4 (50%)	0/2 (0%)	2/2 (100%)	0.16
14/16 (87%)	10/11 (91%)	4/5 (80%)	0.55
2/4 (50%)	2/2 (100%)	0/2 (0%)	0.08
	28 (74%) 7 (19%) 18 (49%) 1 (3%) 9 (24%) 5 (14%) 5 (14%) 23 (58%) 33 (87%) 7/11 (64%) 7/11 (64%) 2/4 (50%) 2/4 (50%)	28 (74%) 20 (73%) 28 (74%) 20 (73%) 318 (49%) 14 (58%) 1 (3%) 1 (4%) 9 (24%) 3 (13%) 5 (14%) 1 (4%) 1 (28%) 9 (33%) 23 (58%) 18 (64%) 33 (87%) 25 (89%) 12 (75%) 7 (88%) 77/11 (64%) 3/6 (50%) 4/13 (31%) 2/6 (33%) 2/4 (50%) 2/2 (100%) 2/4 (50%) 0/2 (0%)	10   10   10   10   10   10   10   10

Table 1: clinico-biological presentation, according to the route of dissemination



	1-week mortality*	1-month mortality	3-month mortality	12-month mortality
All patients (n=40)	40%	68%	83%	90%

#### Table 2 : outcomes

#### **CONCLUSIONS**

- 1. Pre-disposing diseases:
- A majority of highly immunocompromised patients (haematology) • 17% patients less immunocompromised or immunocompetent
- 2. Frequent severe clinical picture, but normal clinical examination should not exclude the diagnosis, nor the absence of an underlying disease • CSF analysis should be performed when possible
  - Frequent abnormalities
- Utility of biomarkers (PCR) in the the sera and the CSF (negative cultures)
- Systematic MRI could be suggested
- 3. CNS mucormycosis is rapidly fatal
- Especially in case of haematogenous dissemination and neutropenia at diagnosis

- 4. Surgical treatment is recommended for mucormycosis:
- Not always easy in case of CNS localization Possible high morbidity of neurosurgery
- Should be further studied (too small sample)
- 5. Use of dual therapy could be further studied in some sub-groups of severe patients

#### **ACKNOWLEDGEMENTS**

To all the participating centers, microbiologists and clinicians

## CONTACT INFORMATION

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