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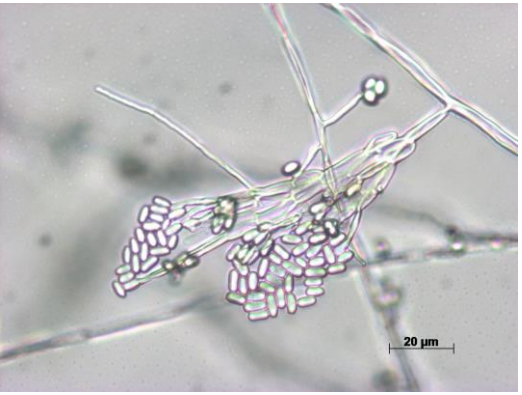
et la région Pays de la Loire

S.O.S.
The nationwide French scedosporiosis observationnal study



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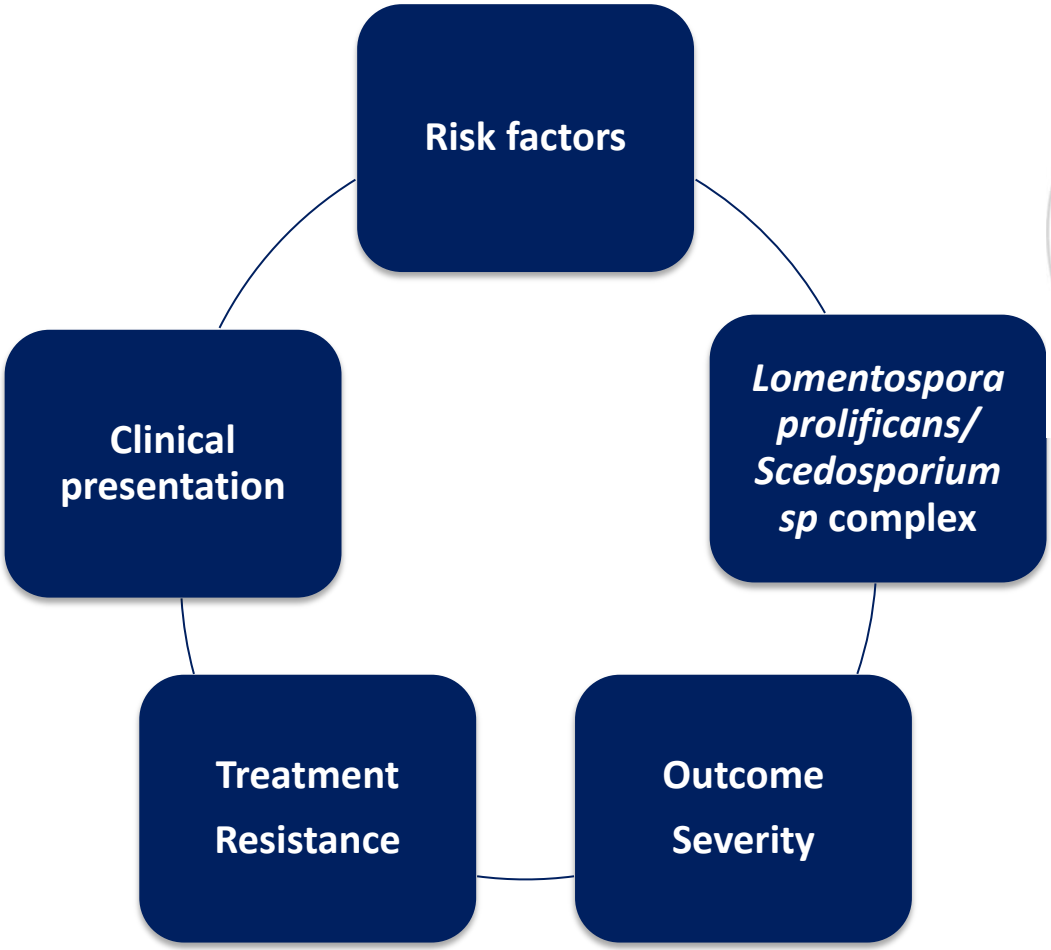
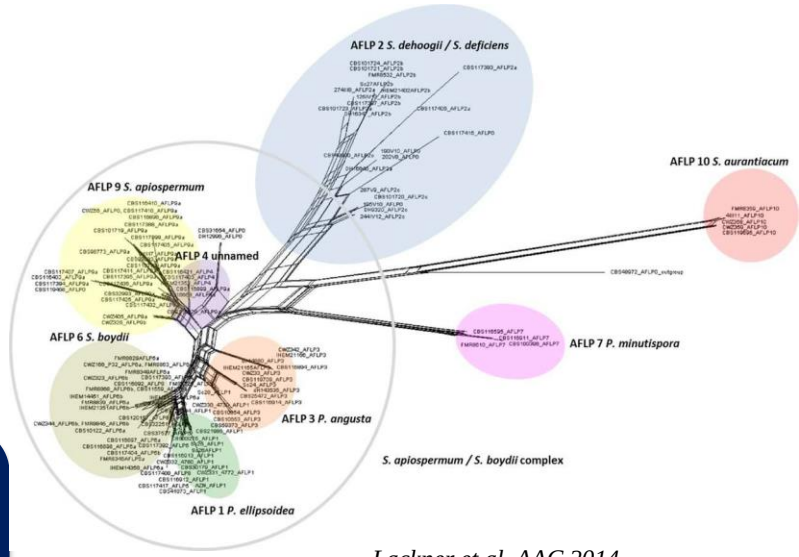
Background



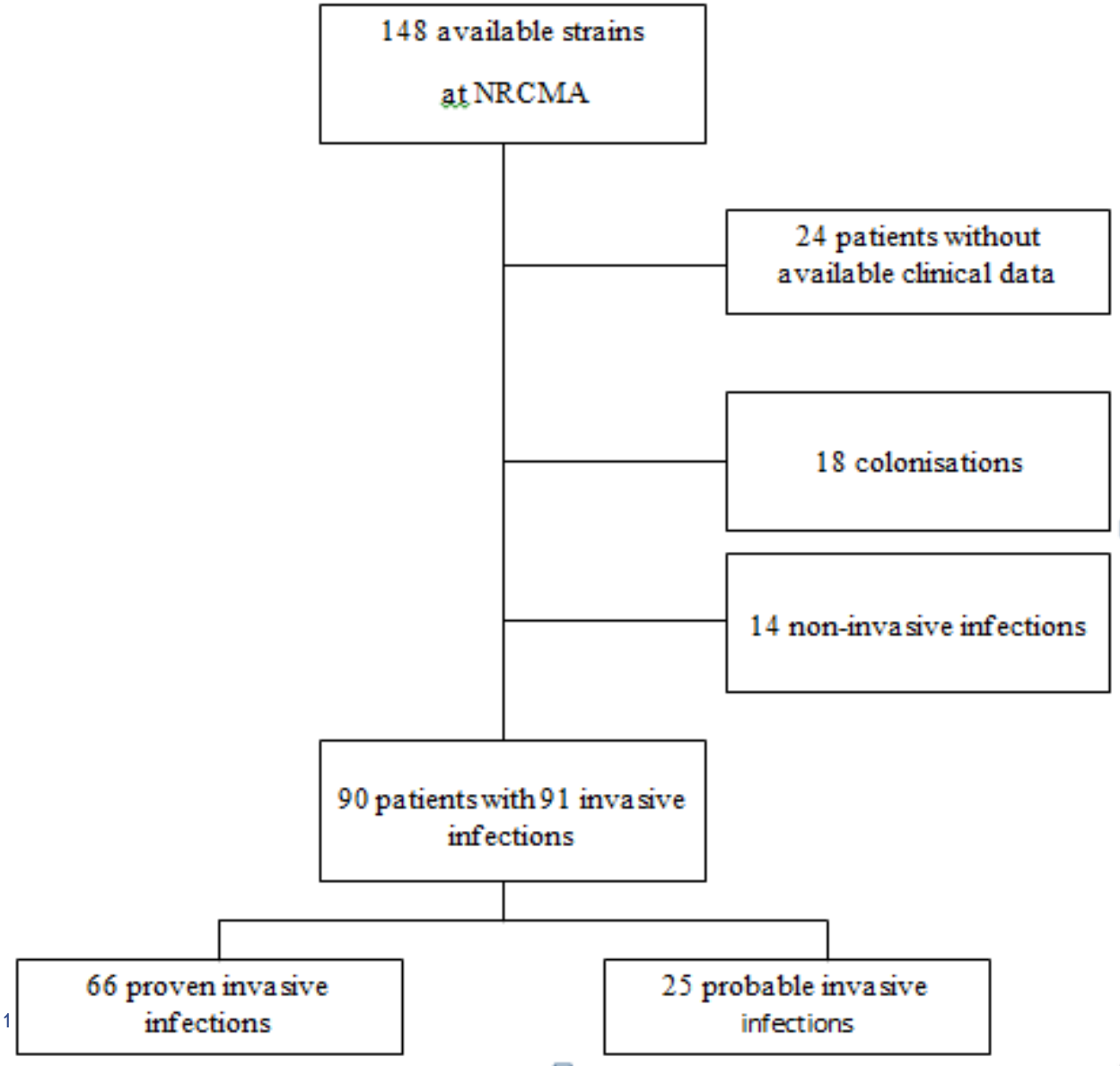


Lackner et al. AAC 2014

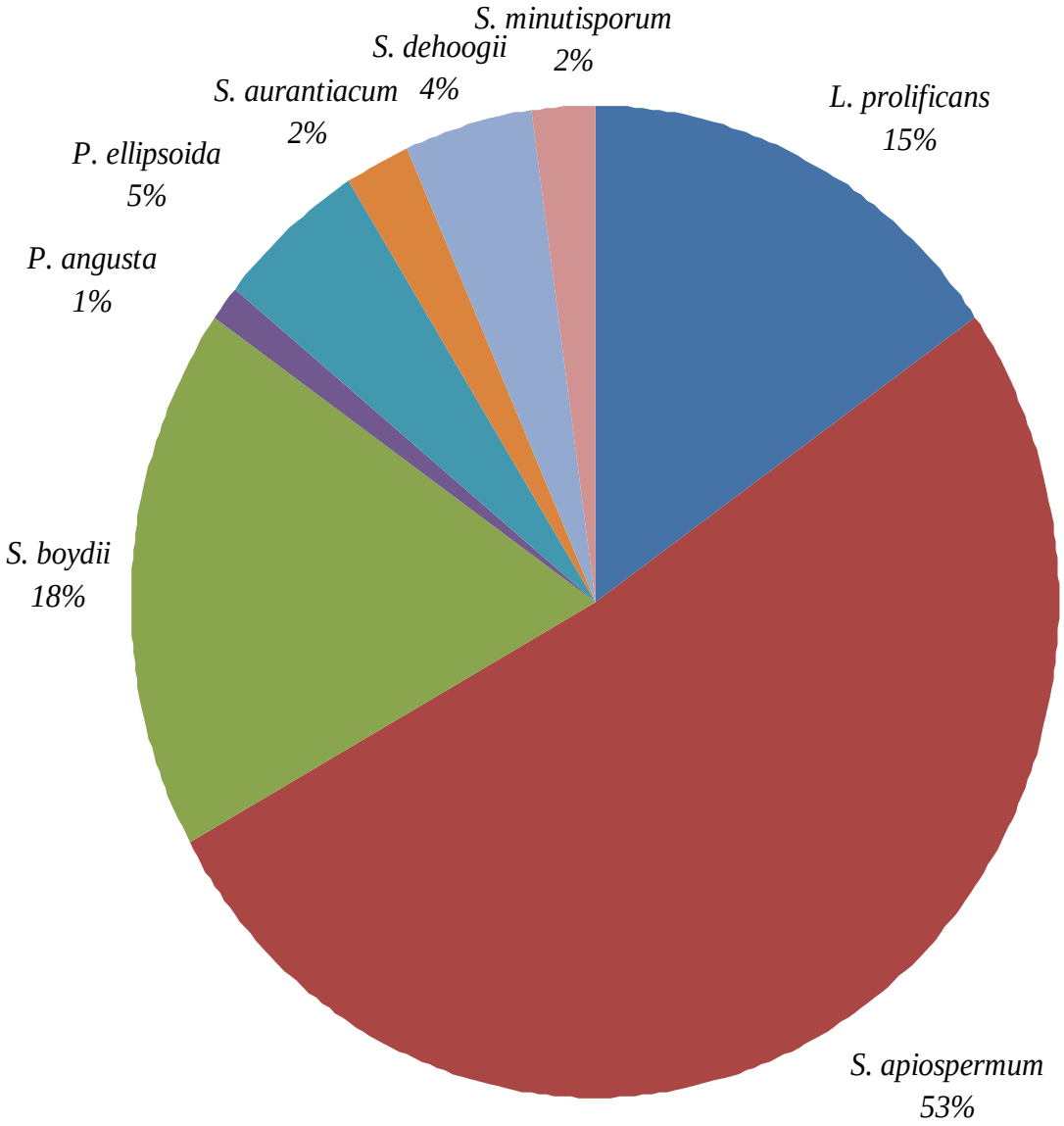
Objective and methods

- **Describe invasive scedosporiosis epidemiology in France**
  - Species, Risk factors, Clinico-radiological presentation, treatment and prognosis
- **Retrospective national multicenter study**
- **Cases were collected between 2005 and 2017 through our nationwide network of French university hospitals**
- **Inclusion criteria: Proven or probable invasive scedosporiosis with available isolate**
- **Isolates were sent to the National Reference Centre for Invasive Mycoses and Antifungals (NRCMA) where polyphasic identification was performed (phenotypic and molecular with ITS, 28S and B-tubuline).**

Clinical cases selection within strains available at NRCMA (2005-2017) after exclusion of duplicates



Species repartition in 91 episodes of probable or proven invasive scedosporiosis



Characteristics of 90 patients: risk factors

	No (%) of patients
Median (range) age in years	60 [0-86]
Male sex	67 (74)
Main risk factor	
Haematologic malignancy (HM) or cancer	33/90 (36)
Haematologic malignancy	29/90 (32)
+Neutropenia	14/28 (50)
+Hematopoietic stem cell transplantation	9/28 (32)
Cancer	4/90 (4)
+Recent chemotherapy	4/4 (100)
Solid organ transplantation (SOT)	15/90 (17)
Systemic inflammatory disease (SID)	8/90 (9)
Trauma or inoculation	20/90 (22)
Other	11/90 (12)
No risk factor	4/90 (4)

Solid organ transplant: lung : n=6, kidney : n=3, heart : n= 3, liver : n = 2, multiple=1

➔ **Immunodepression : 64%, trauma : 22%**

Infection location

	No (%) of patients
Infection site	
Musculosquelettal and cutaneous	27/91 (30)
Osteoarticular	18/91 (20)
Cutaneous	8/91 (9)
Muscular	1/91 (1)
Pleuro-pulmonary	18/91 (20)
Rhinosinusal and invasive otitis	9/91 (10)
With contiguous central nervous system infection	3/91 (3)
Others	7/91 (8)
Central nervous system	4/91 (4)
Digestive	3/91 (3)
Disseminated	30/91 (33)
With central nervous system involvement	12/91 (13)
With cardiovascular involvement	10/91 (11)
Fungemia	11/91 (12)

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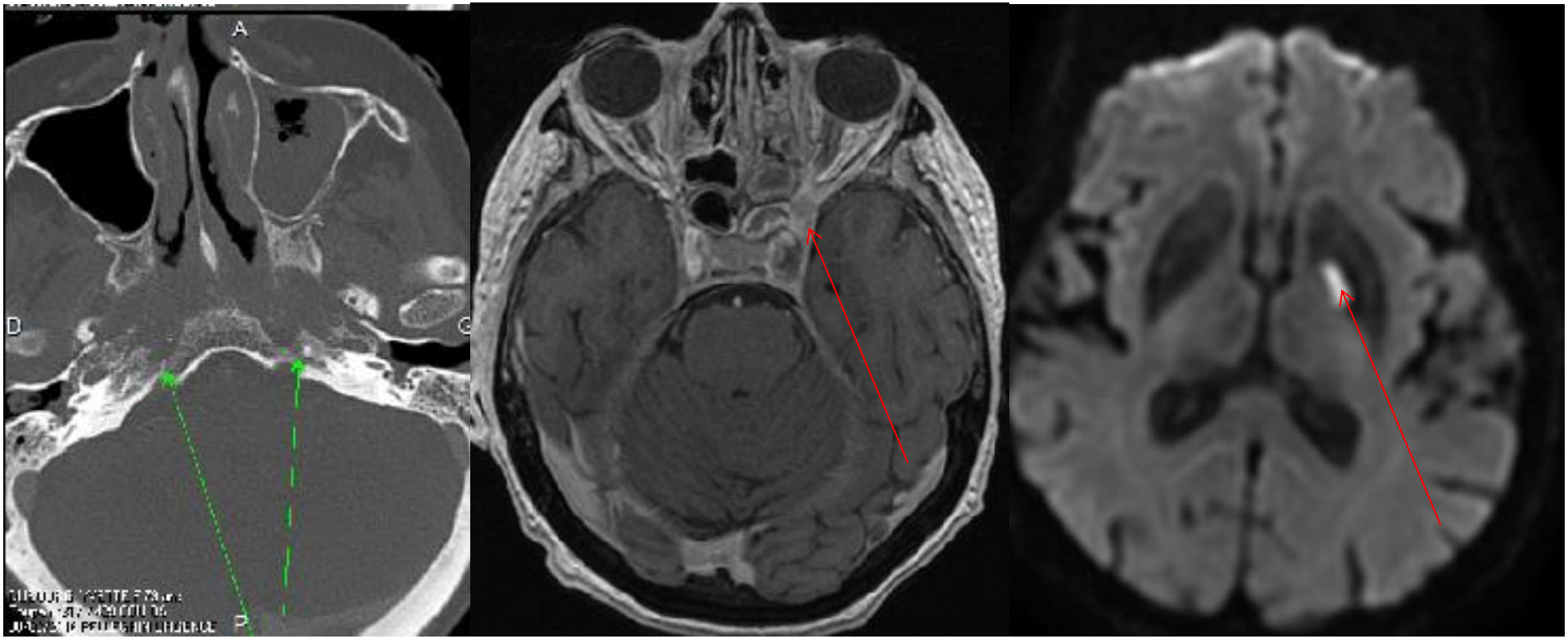
Rhinosinus	(10)
V	
Others	(8)
Central nervous system	4/91 (4)
Digestive	3/91 (3)
Disseminated	30/91 (33)
With central nervous system involvement	12/91 (13)
With cardiovascular involvement	10/91 (11)
Fungemia	11/91 (12)

Disseminated infections

CNS infections in 40%

Cardiovascular infections in 33%

Invasive rhinosinusitis



Osteitis

Remerciements Dr Tayeb CHOUAKI (mycologie/parasitologie, Amiens)

Location and risk factor

	No (%) of patients with each underlying factor						
	HM or cancer (n=33)	**SOT (n=15)**	**SID (n=8)**	**Trauma (n=22)**	**Other (n=11)**	**No risk factor (n=4)**	**p value**
Infection localization							<0.001
Musculoskelettal and cutaneous	3 (9)	2 (13)	5 (63)	15 (75)	2 (18)	0 (0)	
Pleuro-pulmonary	8 (24)	4 (27)	1 (13)	2 (10)	3 (27)	0 (0)	
Invasive rhinosinusitis and otitis	3 (9)	0 (0)	0 (0)	0 (0)	2 (18)	4 (100)	
Others	2 (6)	2 (13)	1 (13)	1 (5)	1 (9)	0 (0)	
Disseminated	17 (52)	7 (47)	1 (13)	2 (10)	3 (27)	0 (0)	0.011
Fungemia[1]	7 (30)	2 (20)	0 (0)	1 (10)	1 (17)	0 (0)	0.589

[1]among patients with blood culture performed

L. prolificans infections

	Number (%) of patients		
	L. prolificans (n=14)	Others species (n=77)	p value
Main risk factor			0.127
HM or cancer	9 (64)	24 (31)	
SOT	0 (0)	15 (19)	
SID	0 (0)	8 (10)	
Trauma or inoculation	4 (29)	16 (21)	
Other	1 (7)	10 (13)	
No risk factor	0 (0)	4 (5)	
Associated medical condition			
Neutropenia	6 (43)	9 (12)	0.005
Infection site			0.108
Pleuropulmonary	1 (7)	17 (22)	
Musculoskeletal and cutaneous	3 (21)	24 (31)	
Invasive rhinosinusitis and otitis	0 (0)	9 (12)	
Other	1 (7)	6 (8)	
Disseminated	9 (64)	21 (27)	0.012
Fungemia	6/9 (67)	5/43 (12)	0.001
3-month mortality	8/13 (62)	13/71 (18)	0.003

S. apiospermum and *S. boydii*

Number (%) of patients			
	S. apiospermum (n=47)	*S.boydii*[1] (n=21)	p value
Main risk factor			0.036
HM or cancer	17 (36)	5 (24)	
SOT	6 (13)	8 (38)	
SID	6 (13)	0 (0)	
Trauma or inoculation	11 (23)	3 (14)	
Other	4 (9)	5 (24)	
No risk factor	3 (6)	0 (0)	
Infection site			0.130
Pulmonary	6 (13)	8 (38)	
Musculoskeletal and cutaneous	16 (34)	4 (19)	
Invasive rhinosinusitis and invasive otitis	7 (15)	1 (5)	
Other	5 (11)	1 (5)	
Disseminated	13 (28)	7 (33)	
Fungemia	1/26 (4)	4/10 (40)	0.015
3-month mortality	8 (19)	5 (25)	0.740

1 includes *S. boydii* stricto sensu and *P. ellipsoidea*

Scedosporiosis treatment and outcome

	No (%) of patients
First line antifungal therapy[1]	77/82 (94)
Voriconazole	69/77 (90)
Antifungal combination	22/77 (29)
Median (range) duration of antifungal therapy in days	171 [3-1497]
Curative surgery	44/91 (48)
3-month mortality[2]	21/83 (25)

[1]For patients who survived 7 days after diagnosis

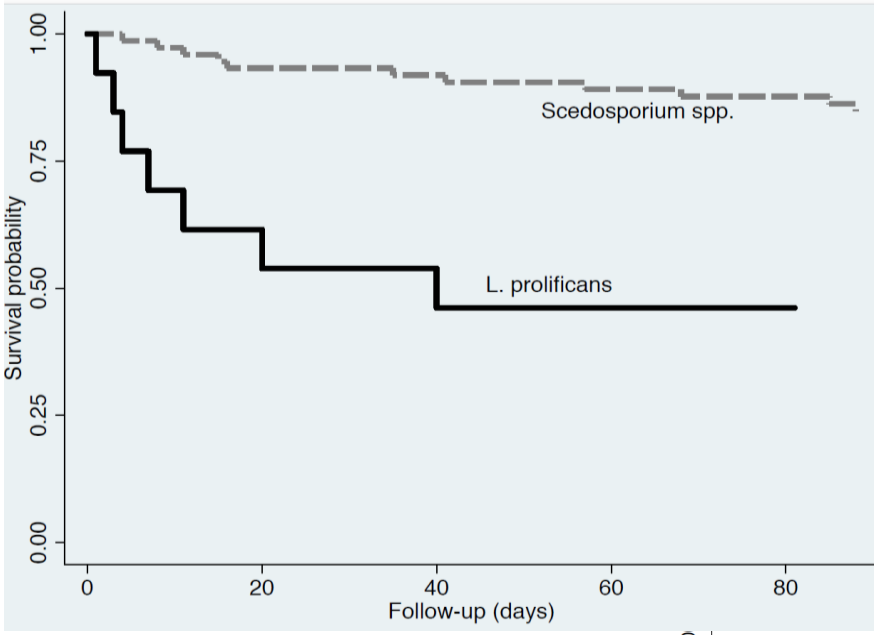
[2]83 patients with follow-up of at least three monts

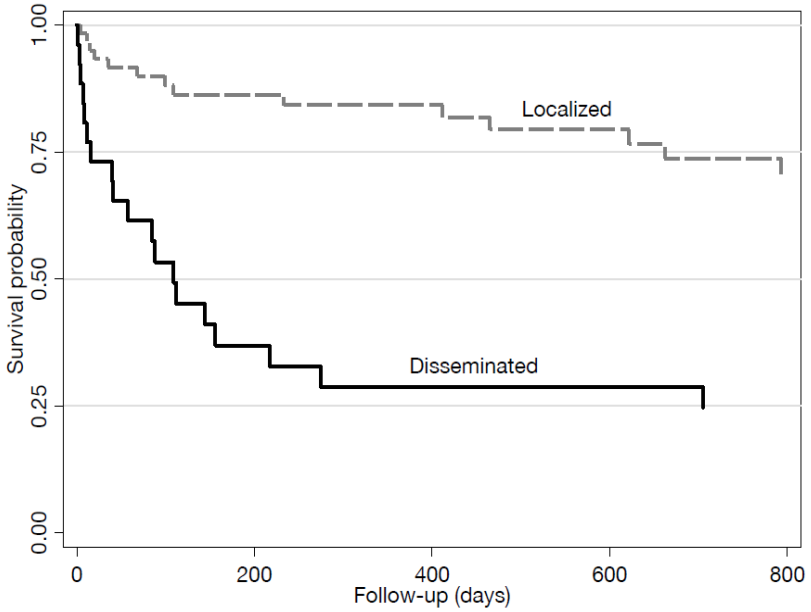
Three months mortality risk

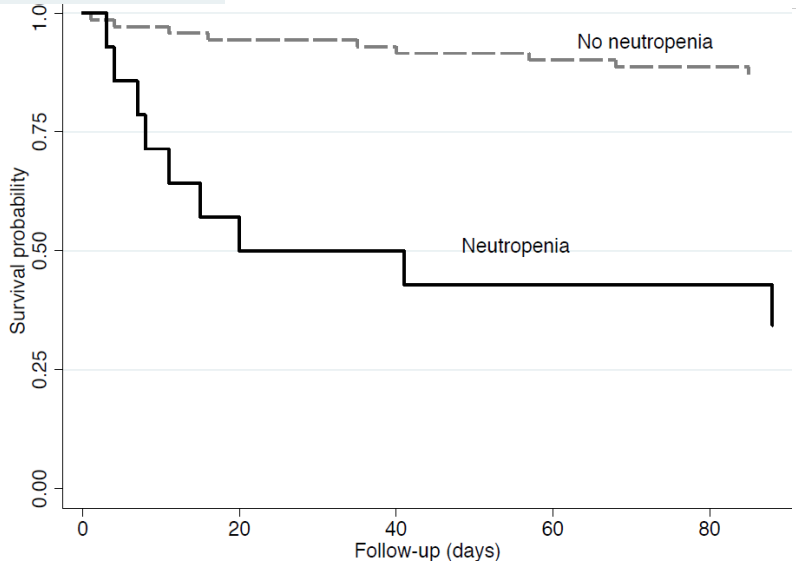
	No (%) of patients	*P value*
Male vs female sex	18/62 (29) vs 3/21 (14)	0.249
Main risk factor		0.022
HM or cancer	15/31 (48)	
SOT	2/15 (13)	
SID	1/7 (14)	
Trauma	2/18 (11)	
Others	1/9 (11)	
No risk factor	0/3 (0)	
Associated medical condition		
Neutropenia vs no neutropenia	10/14 (71) vs 9/67 (13)	< 0.001
Breakthrough vs no breakthrough infection	7/20 (35) vs 14/63 (22)	0.255
Infection site		< 0.001
Cutaneous and musculoskeletal	2/24 (8)	
Pleuro-pulmonary	1/18 (6)	
Rhinosinusitis and Invasive otitis	1/8 (13)	
Others	2/5 (40)	
Dissemination	15/28 (54)	< 0.001
Fungemia vs no fungemia	8/11 (73) vs 7/37 (19)	0.002
Causative fungal species		
L. prolificans vs others species	8/13 (62) vs 13/71 (18)	0.003
S. apiospermum vs *S. boydii*	8/41 (20) vs 5/20 (25)	0.741

3 months follow up available for 83 patients

Three months mortality risk







Conclusion

- **Diversity of clinical presentations**
- **Majority of immunosuppressed patients**
- **Frequent musculoskeletal, lung infection**
- **Dissemination associated with CNS and cardiovascular infections**
- **25% mortality**
- **Influence of the infecting species**
  - *L. prolificans* versus *Scedosporium* spp.
  - within *S. apiospermum* complex
  - on the population at risk, clinical presentation and outcome

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