

# Invasive aspergillosis in liver disease patients: no easy way out.

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## INTRODUCTION

- ❖ Invasive aspergillosis (IA) was considered an infection occurring in patients with hematologic malignancies and organ transplantation i.e. immunosuppressed.
- ❖ There is increasing evidence that liver disease patients (severe alcoholic hepatitis, acute hepatic failure, cirrhosis) are also at high risk for IA.
- ❖ However, identification of *Aspergillus* in respiratory sample in cirrhotic patients is more frequent and its impact on outcome remains unknown.

## METHODS

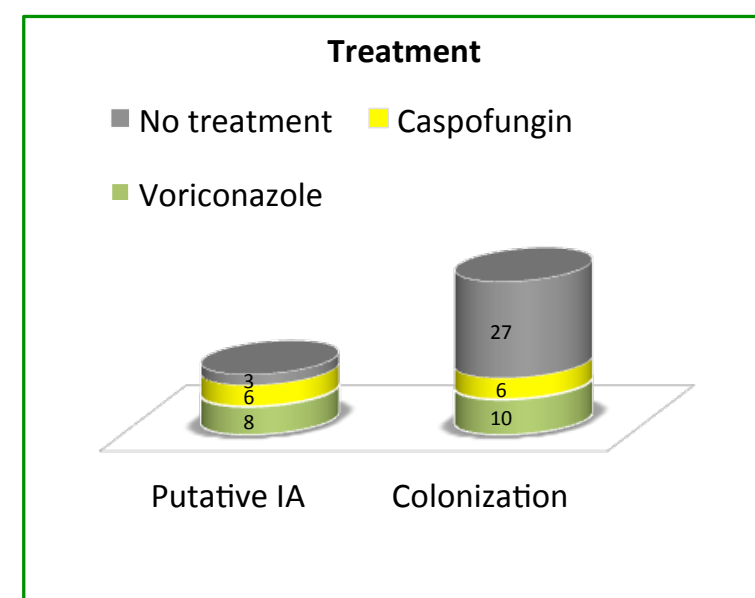
- ❖ Between January 2005 and November 2015, all patients hospitalized in our center with liver disease and an *Aspergillus* spp. positive respiratory sample were enrolled in this retrospective study.
- ❖ Patients were reviewed by a 4 members team (2 intensive care clinicians and 2 mycologists) and were classified in putative aspergillosis or colonization according to Blot *et al.* criteria<sup>1</sup>.

## RESULTS

- ❖ Sixty patients with *Aspergillus* positive respiratory sample were identified (BAL: n = 52, bronchial aspirate: n = 3 or sinus sample: n = 5).
- ❖ The median MELD score was 27 [6-40]. Cirrhosis was the most common liver disease (n=37, 62%) followed by viral hepatitis (n=11).
- ❖ *Aspergillus fumigatus* was the most common species of *Aspergillus* isolated (n = 45, 75%). Seventeen patients (28%) were diagnosed as putative IA and 43 were considered having *Aspergillus* colonization. Direct examination in respiratory samples was positive in 35% of IA group and serum and/or BAL galactomannan was positive in 35% of IA patients. *Aspergillus* PCR had not been performed in this population. The characteristics of the patients included with putative IA and colonization are shown in Table 1.

Criteria	Putative IA (%)	Colonization (%)	p
Sex (male)	15 (88,24)	36 (83,72)	>0,99
Age (mean)	56	54,8	0,59
<b>Pulmonary pathology</b>	<b>10 (58,82)</b>	<b>13 (30,23)</b>	<b>0,05</b>
Smoking	6 (35,29)	17 (39,53)	>0,99
Diabetes	2 (11,76)	12 (27,91)	0,31
Corticoids	7 (41,2)	16 (37,2)	0,77
<b>Encephalopathy</b>	<b>9 (52,94)</b>	<b>8 (18,60)</b>	<b>0,012</b>
Ascitis	9 (52,94)	15 (34,88)	0,24
Ventilation	10 (58,82)	19 (44,19)	0,39
Catecholamine	10 (58,82)	18 (41,86)	0,26
<b>Dialysis</b>	<b>7 (41,18)</b>	<b>6 (13,95)</b>	<b>0,03</b>
Death	9 (52,94)	8 (18,60)	0,048

Table 1. Logistic regression analysis, using putative IA as the endpoint, identified pulmonary pathology in the medical history as an independent risk factor: odds ratio [OR] = 4.48; 95% CI 1.03-19.3; p=0.04),



Voriconazole was given in 47 % of putative IA group versus 23% of colonization group and caspofungin in 35% and 14%, respectively.

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## CONCLUSION

- ❖ Systematic screening for IA should be recommended in cirrhotic patients. *Aspergillus* in a respiratory tract specimen is common.
- ❖ To treat or not to treat is a difficult question in cirrhotic patients in whom IA is associated with high mortality and in whom antifungal treatment should be initiated as soon as possible. The presence in the medical history of pulmonary pathology (Chronic obstructive pulmonary disease, restrictive syndrome) is an independent risk factor associated to IA in cirrhotic patients.

## REFERENCES

1. Gavalda J. *et al.*, Clin Microb Infect, 2014
2. Blot SI *et al.* Am J Respir Crit Care Med. 2012;186:56–64.