

# PROSPECTIVE REGISTRY OF INVASIVE FUNGAL DISEASES IN ACUTE MYELOID LEUKEMIA: PRELIMINARY RESULTS ON 142 CASES

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## Background/Aims

Invasive aspergillosis remains one of the most serious complications in patients with hematological malignancies. The present prospective registry was designed to evaluate epidemiological characteristics, treatments and outcome of invasive fungal diseases (IFDs) in acute myeloid leukemia patients (AMLs).

## Methods

From January 2010 to March 2011, 31 Italian participating centers registered all consecutive cases of IFDs in adult AMLs at first induction (until 30<sup>th</sup> day from the end of chemotherapy). The parameters we analyzed were: age, sex, severity and duration of neutropenia, antifungal prophylaxis, certainty of IFD diagnosis, empirical/pre-emptive therapy, target therapy, etiologic agent, outcome. Response rate to antifungal therapy and mortality rate were thus analyzed.

## Results

Over a 15 month period, 142 IFDs were collected in 593 newly diagnosed AMLs (incidence 23.6%). Median age was 60 (range 18-81), with a male/female *ratio* of 1.6/1. The most part of IFDs (128, 90%) occurred in pts who had received conventional chemotherapy (128/498, incidence 25.7%). As expected, IFDs incidence was lower in those receiving either supportive or low dose therapy (14/95, 14.7%). Probable and proven IFDs were 37 and 14, respectively; remaining cases were classified as possible IFDs (91, 64%). A deep neutropenia (PMN count <500/ $\mu$ l) lasting for at least 7 days occurred in 129 of them (91%). Antifungal approaches are reported in the table. Most of pts had received systemic antifungal prophylaxis (120/142, 85%), more frequently with posaconazole. Liposomal AmB and caspofungin were the most frequently employed drugs, as empirical/pre-emptive therapies. Of 51 proven/probable IFDs, the majority were mold infections (36, 69%), with a mold/yeast *ratio* of 2.4/1. Among molds, aspergillosis (IA) were predominant (27, 75%). Four cases of rare fungal agents were identified (1 *Fusarium*, 1 *Blastoschizomices*, 1 *Geotrichum* and 1 *Trichosporon*). At 30<sup>th</sup> day, 104 pts had achieved a favourable response; the overall response rate was 73%. IFD-attributable mortality rate (AMR) was 11.3%, ranging from 5.5% for possible to 21.6% for proven/probable cases.

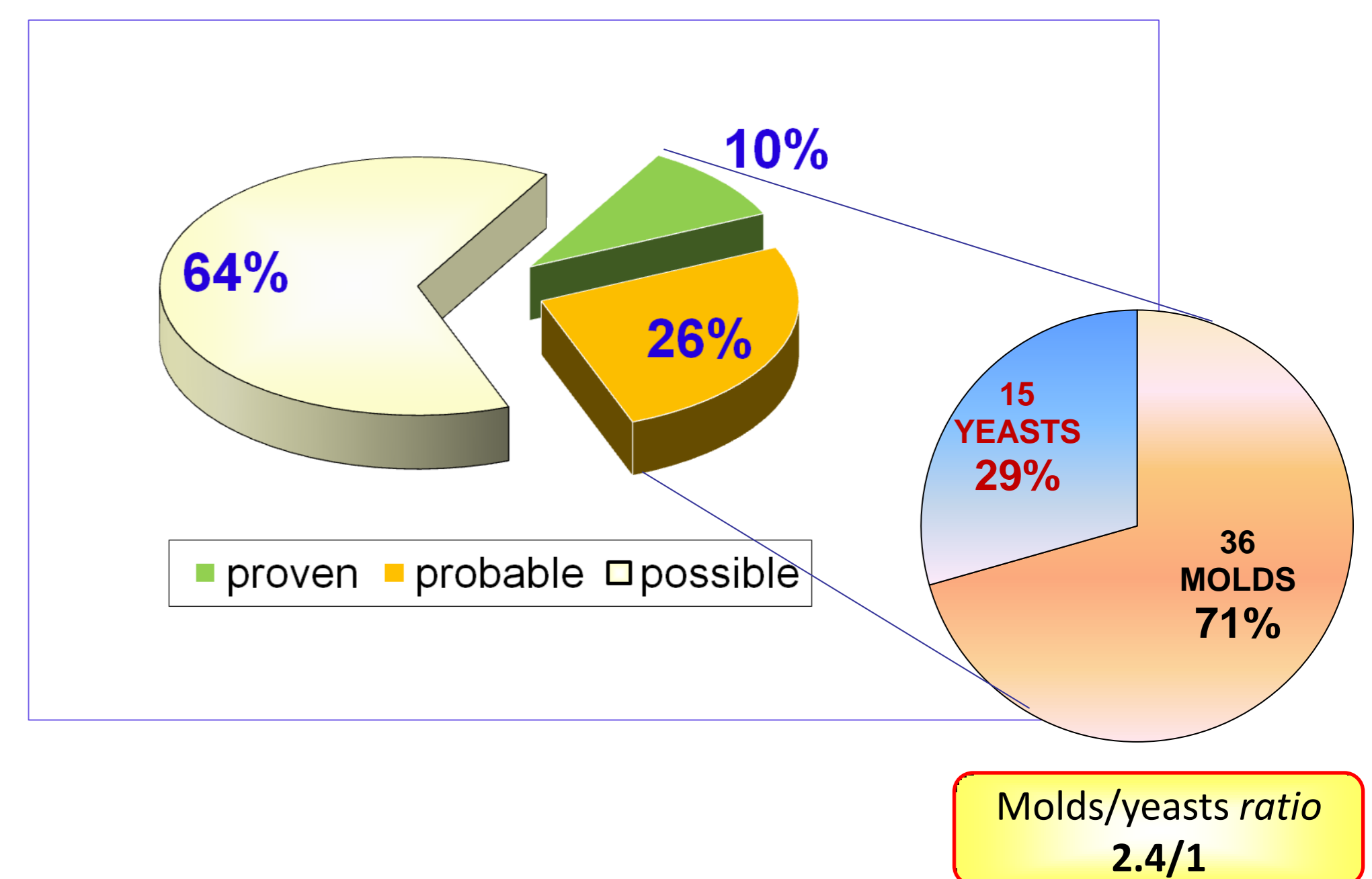


Table 1: main characteristics of 142 cases

Median age (range)	60 (18-81)
Male/Female	1.6/1
Deep neutropenia	129 (91%)
Previous treatment for AML	
➢ intensive chemotherapy	128 (90%)
➢ supportive/low dose	14 (10%)
Previous systemic AF prophylaxis	120 (85%)
Previous AF prophylaxis	
➢ Posaconazole	55 (46%)
➢ Itraconazole	34 (28%)
➢ Flucocanazole	28 (23%)
➢ Other *	3 (2%)

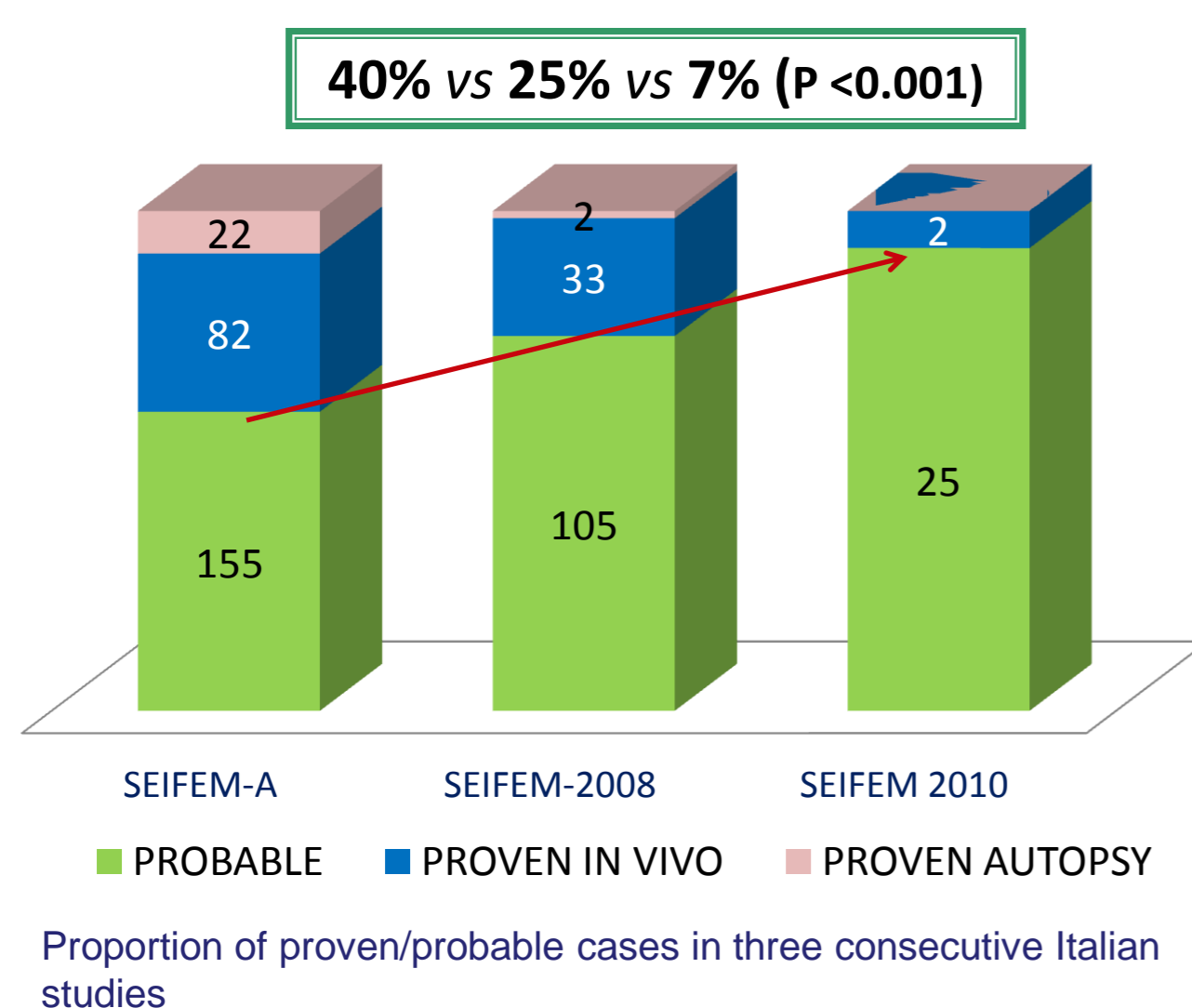
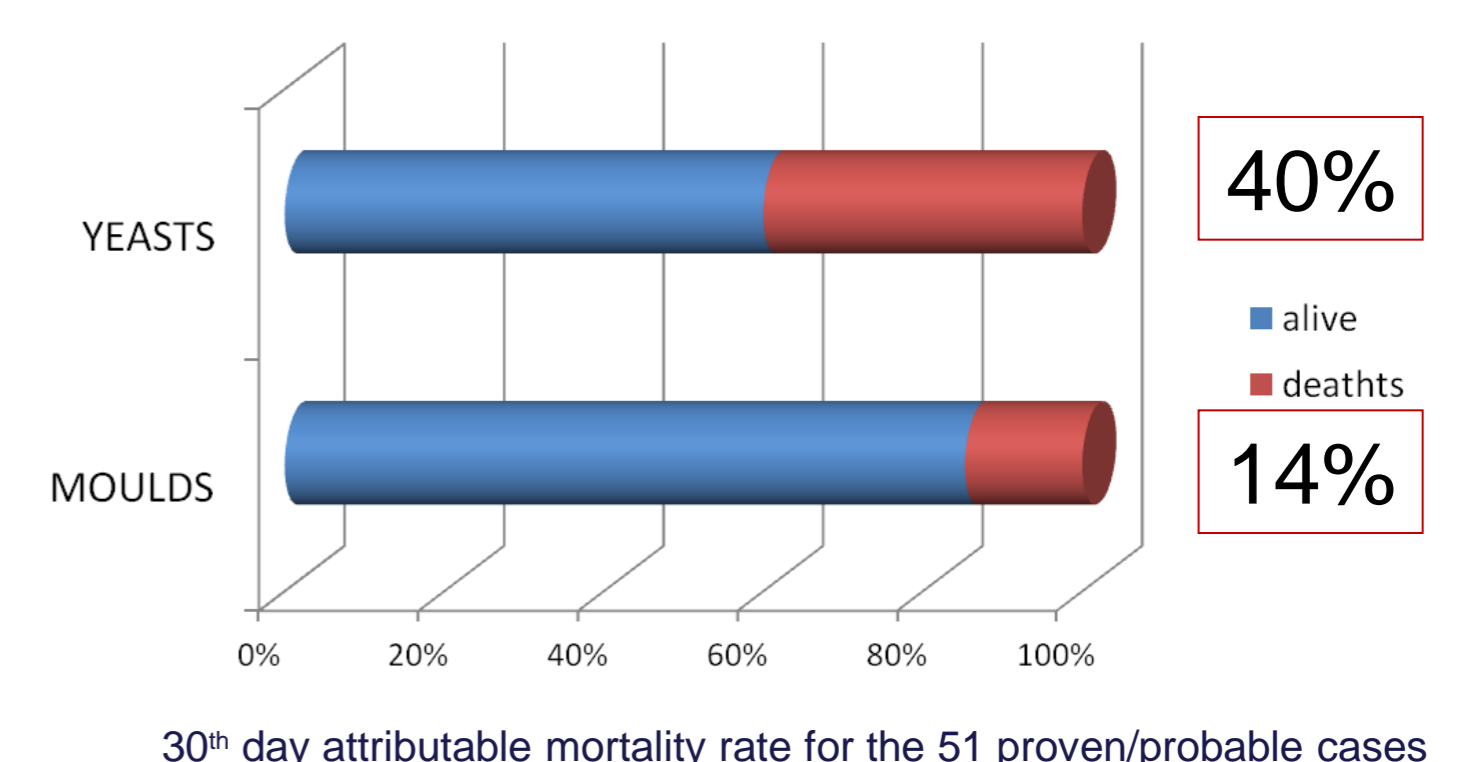


Table 2: first line target treatments for 51 proven/probable cases

	PROV/PROB (51)	PROVEN/PROBABLE	
		MOULDS (36)	YEASTS (15)
1 <sup>st</sup> line treatment *	41	26	15
➢ L-AmB	11 (27%)	8 (31%)	3 (20%)
➢ Caspofungin	5 (14%)	0	5 (33%)
➢ Voriconazole	20 (48%)	17 (65%)	3 (20%)
➢ Combined	3 (7%)	0	3 (20%)
➢ Other **	2 (5%)	1 (4%)	1 (7%)

\* Data about 41/51 pts only (7 early deaths and 6 with incomplete data set)  
\*\* deoxy-AmB (1), anidula (1)



## Conclusions

IFDs continue to be a challenging complication in high risk patients. Our results confirm the recently reported trend in reduction of AMR for mould infections. However, possible cases continue to be the most frequent. This datum makes it necessary to improve our diagnostic work-up to better target treatment and preventive strategies, and to reduce the risk of overtreatment.

## References

Pagano L. et al. "Invasive aspergillosis in patients with acute myeloid leukemia: a SEIFEM-2008 registry study" *Haematol* 2010; 95(4):644-50.

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