

PRE-HOSPITAL RISK FACTORS FOR INVASIVE FUNGAL DISEASE IN PATIENTS WITH ACUTE MYELOID LEUKEMIA AT DIAGNOSIS: PRELIMINARY RESULTS FROM THE SEIFEM 2010-STUDY



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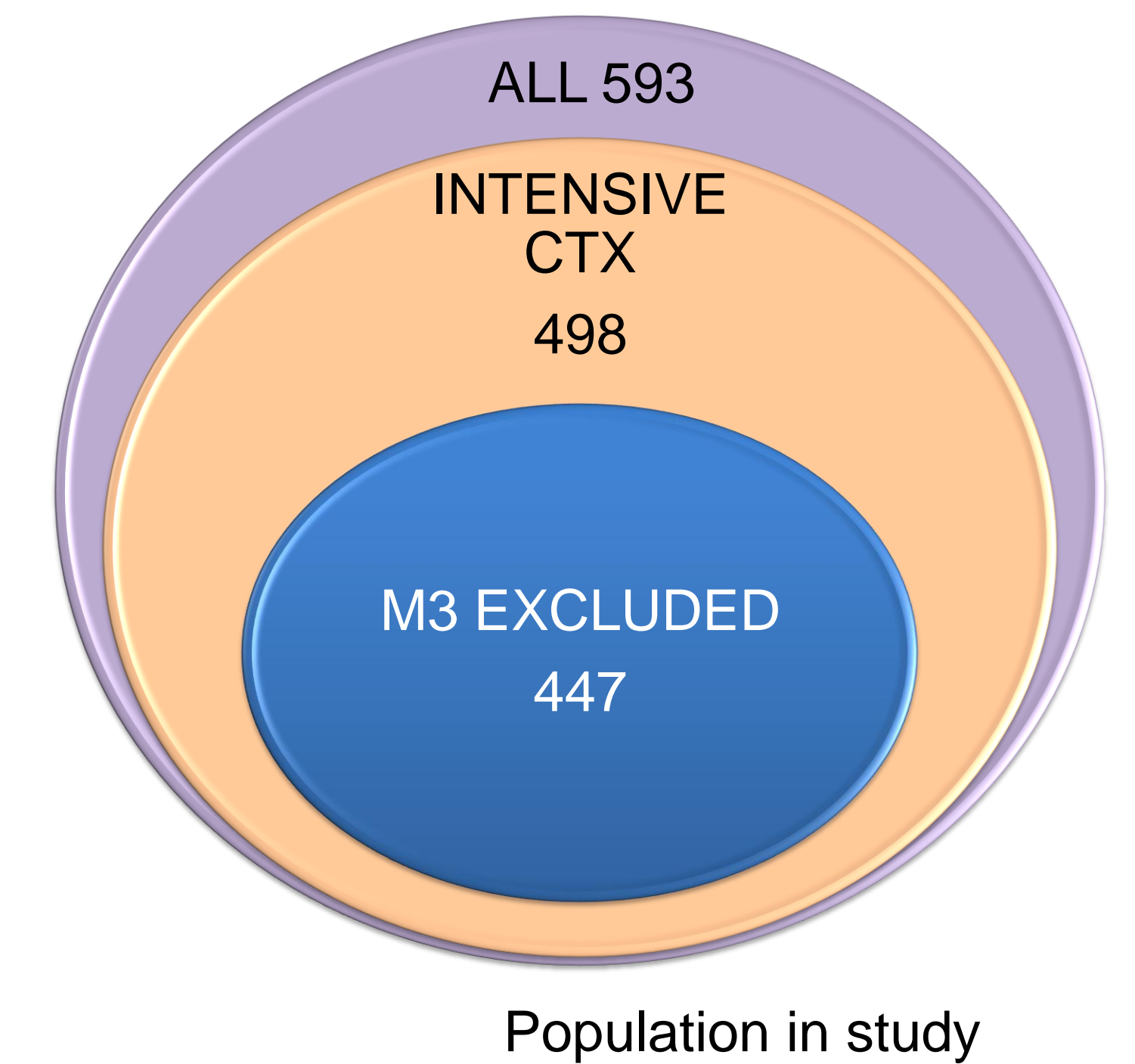
Objectives

To investigate the potential relationship between pre-hospital exposures to fungal sources and the development of invasive fungal diseases (IFDs) in adult acute myeloid leukemia patients (AMLs)



Population

All consecutive newly diagnosed AML patients, from January 2010 to March 2011, in 31 Italian participating centers. We focused on patients treated with conventional chemotherapy only excluding those with acute promyelocytic leukemia, in total 447 cases.



	N pts	N IFD cases	p
Gender			
- M/F	232/215	28 (12%)/15 (7%)	0.06
PS			
- 0-1	342	22 (6%)	< 0.001
- 2-3	97	18 (19%)	
- 4	8	3 (38%)	
Diabetes			
- No/Yes	409/38	36 (9%)/7 (18%)	0.054
COPD			
- No/Yes	424/23	38 (9%)/5 (21%)	0.04
Cig. smoking			
- No/Yes	327/120	31 (9%)/12 (10%)	0.8
CVC			
- No/Yes	112/335	9 (8%)/34 (10%)	0.5
Urinary catheter			
- No/Yes	369/78	24 (7%)/19 (24%)	< 0.001
Neutropenia			
- No/Yes	37/410	0 (0%)/43 (100%)	0.038
Type of house			
- Flat	248	18 (7%)	0.058
- With garden	199	25 (13%)	
Home restructuring			
- No/Yes	398/49	36 (9%)/7 (14%)	0.24
Construction sites near home			
- No/Yes	310/137	26 (8%)/17 (12%)	0.18

Methods

Information about personal habits and possible environmental exposures were investigated. In particular we collected data about: comorbidities, job, hygienic habits, work and living environment, voluptuary habits (i.e. smoking, alcohol, illicit substances abuse), hobbies, pets. We also included data on other well-known risk factors, such as age, neutropenia, mucosal damages, etc. All cases of proven/probable IFDs occurred until the 30th day from the end of first induction were recorded.

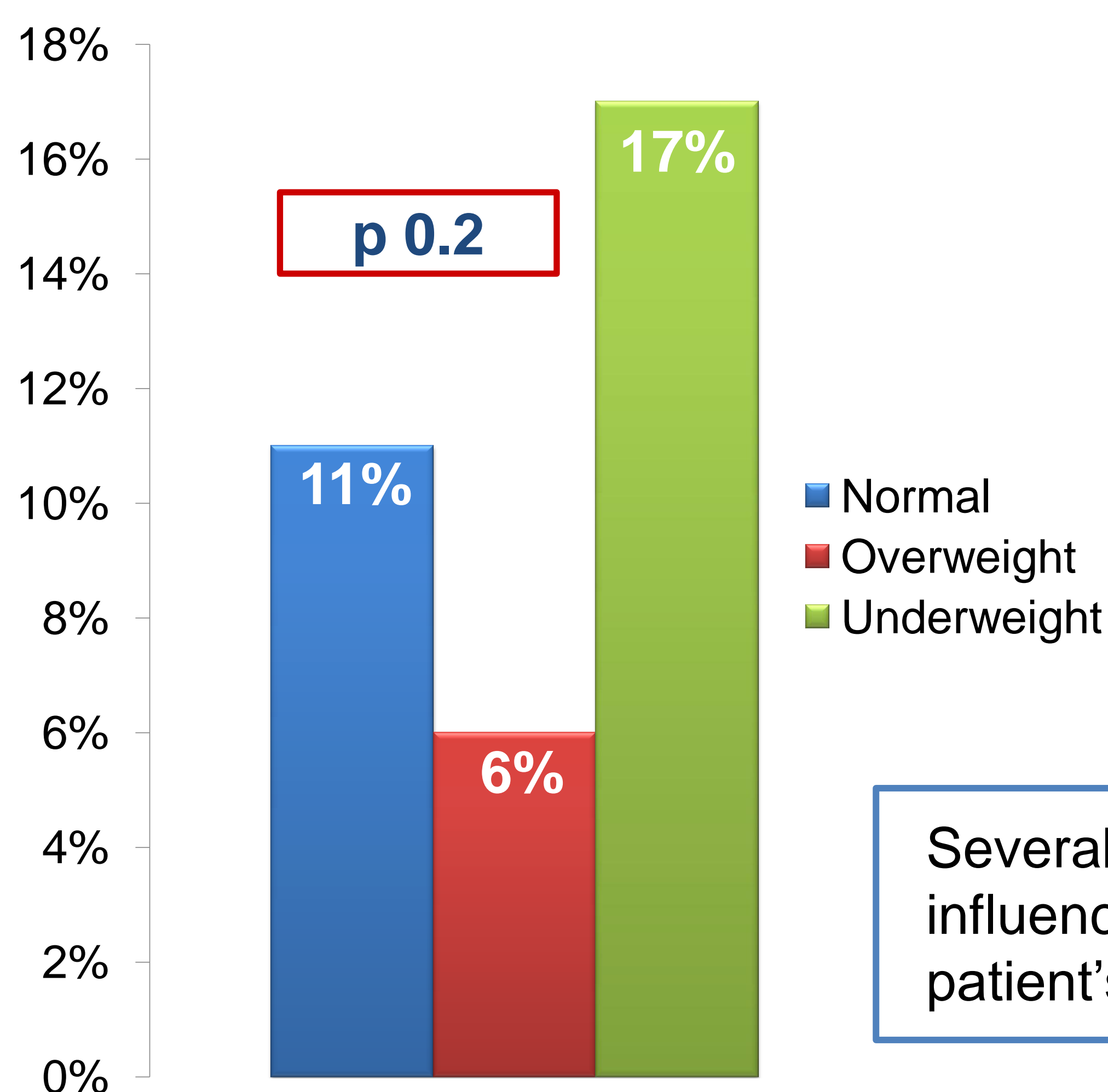
Results

Among the analyzed population 43 pts developed a proven/probable IFDs (30 molds and 13 yeasts) (incidence 9.6%). Median age was 61 (range 18-81). At preliminary analysis a significant association with IFDs development was found for performance status ($p < 0.001$), chronic obstructive pulmonary diseases (COPD) ($p 0.04$), urinary catheter ($p < 0.001$), neutropenia (< 500 neutrophils/ μ l, > 7 days) ($p 0.03$). In particular COPD resulted to predispose to mould infections ($p 0.035$).

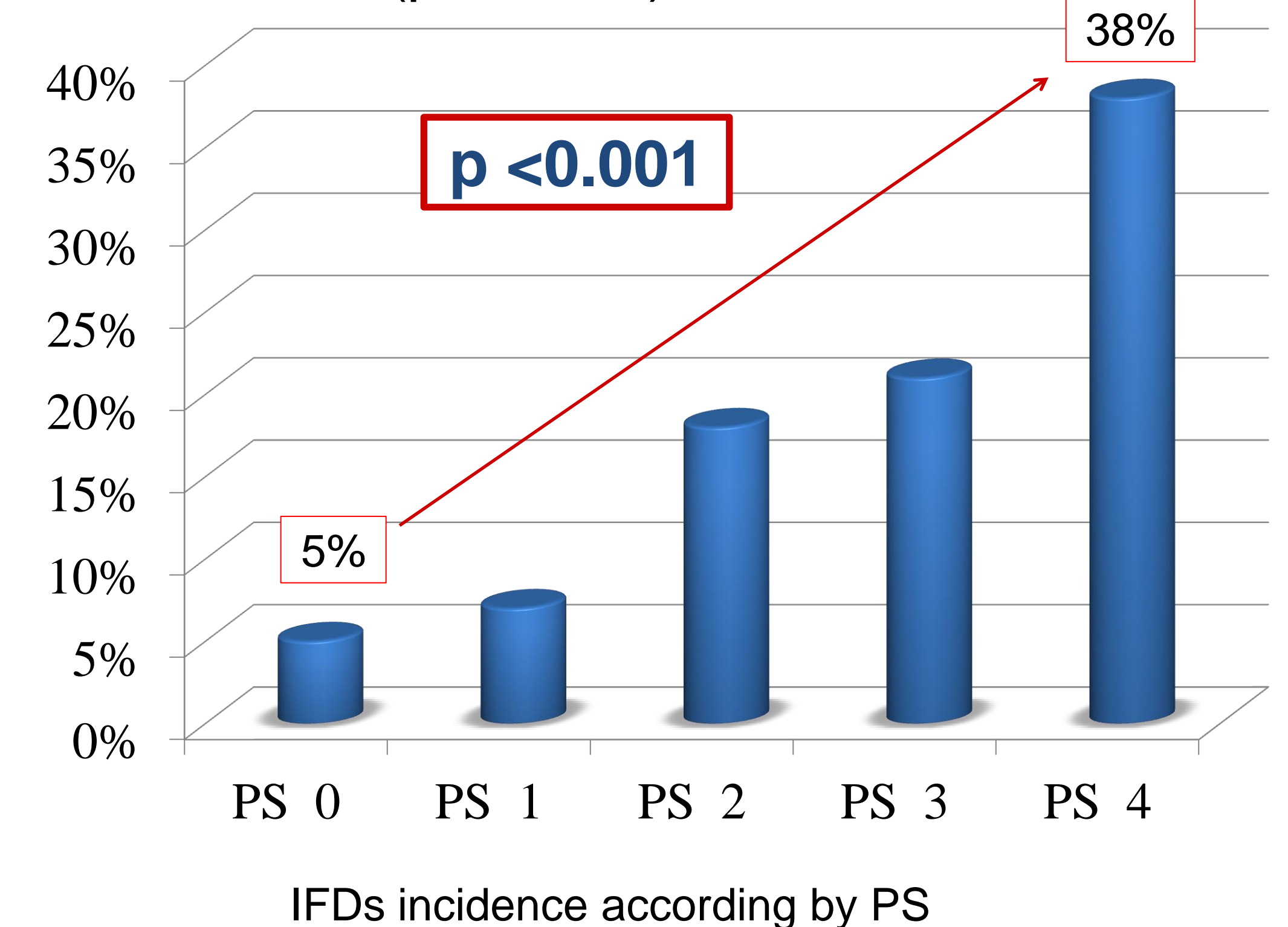
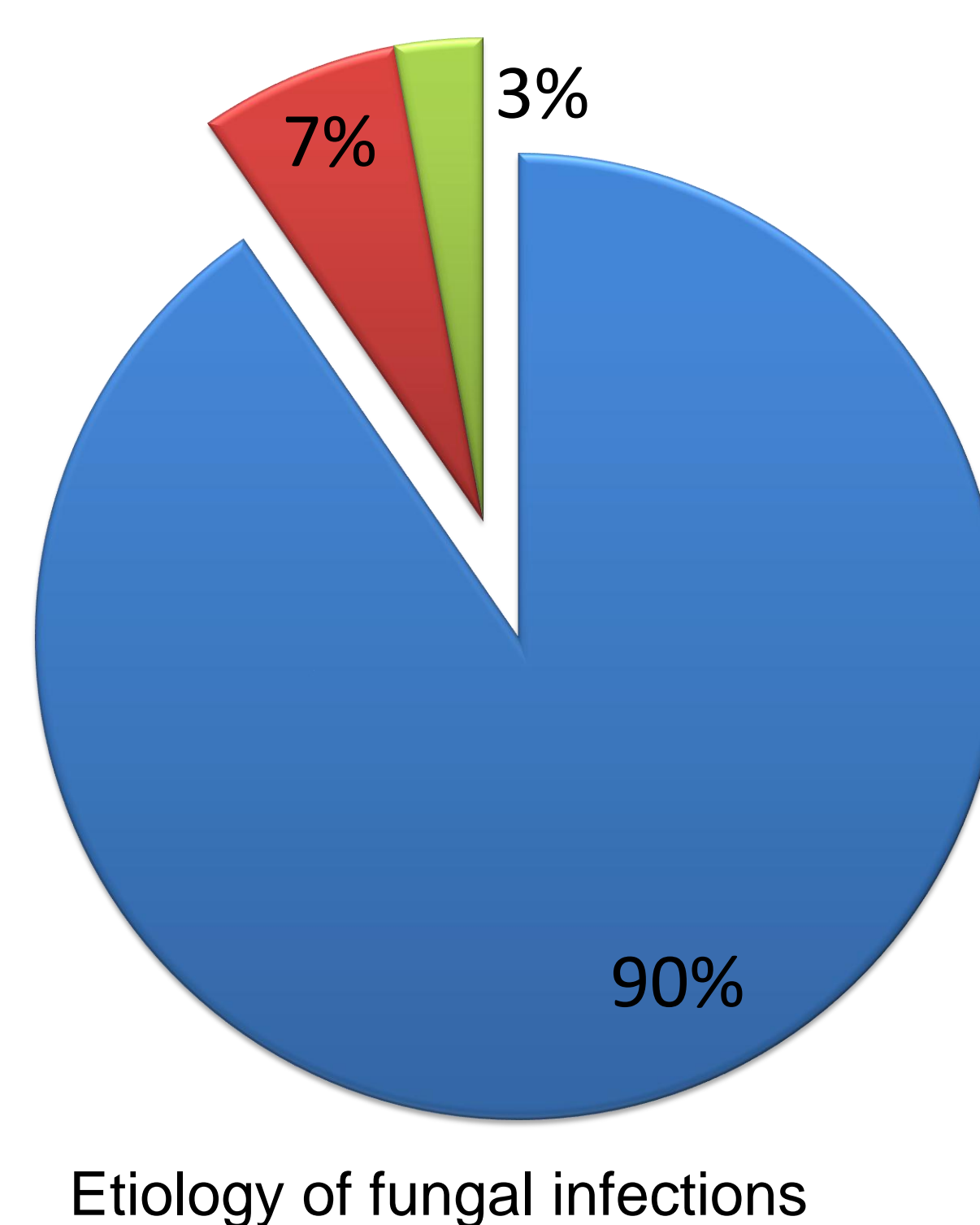
A not significant trend was noted for incidence by gender (males 12% vs females 7%), for diabetes (yes 18%, no 9%), construction sites in the last 3 months to less than 500 meters from home (yes 12%, no 8%), home restructuring in the last 6 months (yes 14%, no 9%). We did not find any association for weight, occupational exposure, geographical origin.

For mould infections only, those patients living in a flat resulted to be at higher risk when compared to those living in house with garden ($p 0.03$). Other variables showing a correlation with the onset of invasive yeast diseases were chronic kidney failure ($p 0.006$) and liver diseases ($p < 0.001$).

IFD: invasive fungal disease; PS: performance status; COPD: chronic obstructive lung disease; CVC: central venous catheter



■ No IFD
■ Moulds
■ Yeasts



Conclusions

Several hospital-independent fungal sources emerged at univariate analysis to potentially influence IFDs onset. Investigation of these factors at time of admission may be helpful in defining patient's risk category and in better targeting prophylactic strategies.