

INVASIVE FUNGAL INFECTIONS: OBSERVATIONAL STUDY IN TWO HOSPITALS IN ITALY (TURIN) AND FRANCE (PARIS)

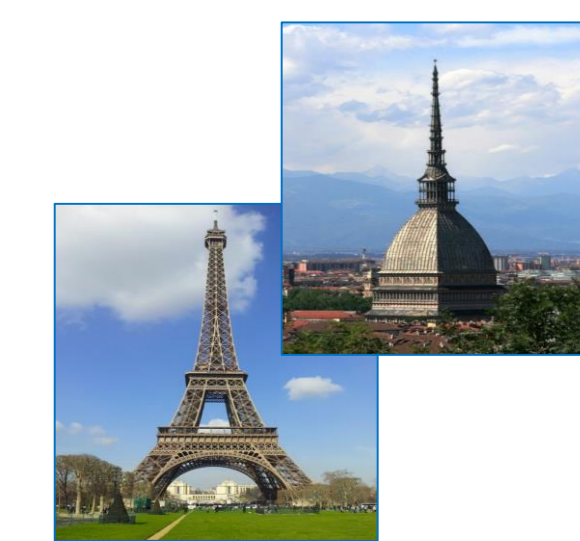
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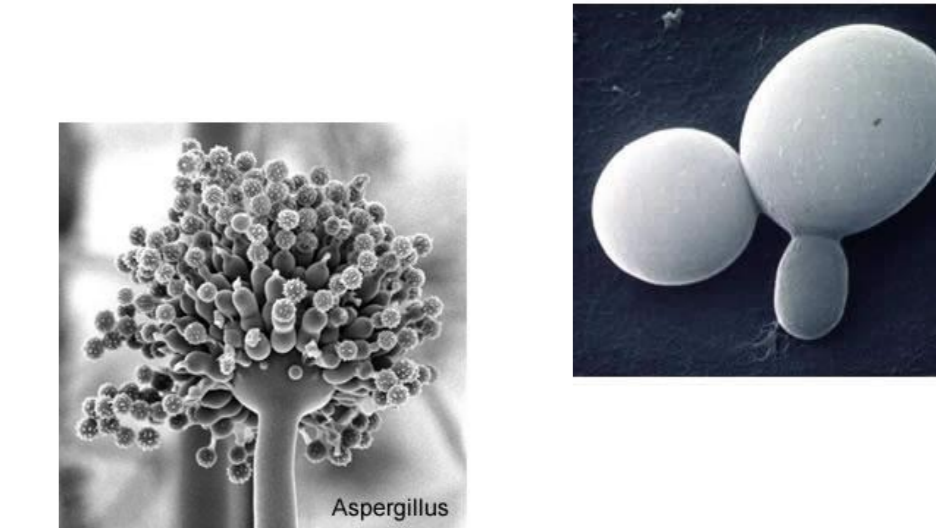
Objectives

Invasive fungal infections (IFIs), namely candidiasis and aspergillosis, are associated with substantial morbidity and high mortality (40–60% and 60–90%, respectively), prolonged hospital stay and increased health care costs (1). They represent a relevant problem in the management of hospitalized patients because are still difficult to treat and eradicate specially in surgical, critically ill and immunocompromised patients (2).

Because the pharmacist, as a member of the multidisciplinary team, can contribute by checking the treatment prescribed, to reduce medication-related problems, we conducted an observational study of IFIs in two hospitals (Turin and Paris) to give a picture of the differences in their distribution and therapeutic approach in two hospital realities.

Methods

The study was conducted using clinical database of 320 hospitalized patients affected by IFIs between 2012-2013: among these, 30 patients were recovered at Orthopedic-Trauma Center Hospital (CTO, Turin, Italy), whereas 290 at Universtaires La Pitié-Salpêtrière-Charles Foix Hospital (Paris, France). The patients were stratified according to infection, sex, age, wards and therapy.



Results

Candida- or Aspergillus-related IFIs were detected in 213 male and 107 female. Candidiasis was higher in critical care unit in both hospitals (Turin 40% vs Paris 48%) (Fig.1-2), whereas in France, aspergillosis was highly distributed in critical care unit (42%) and hematology ward (38%) (Fig.3). A comparable study was not possible for Turin where only one systemic aspergillosis was diagnosed.

Candidiasis was prevalent in male (Turin 78%; Paris 65%) and older patients (61-90 years old) with a prevalence of 67% in Turin and 49% in Paris, while aspergillosis was prevalent in male (68%), and unlike candidiasis, in younger patients (31-60 years old; 47%) (Tab.1).

In 2012-2013, the most widely used drug in both hospitals was caspofungin (54,6-54,9%), followed by fluconazole in Turin (42,5% in 2012; 30% in 2013) and voriconazole in Paris (30,3% in 2012 and 38,9% in 2013) (Fig.4). In few cases, anidulafungin was used (18,2%) only in Turin whereas posaconazole (3,6-5,3%) and micafungin (2,7%) only in Paris. Moreover, in 2013 in both hospitals, 10% of the therapy was represented by liposomal amphotericin B.

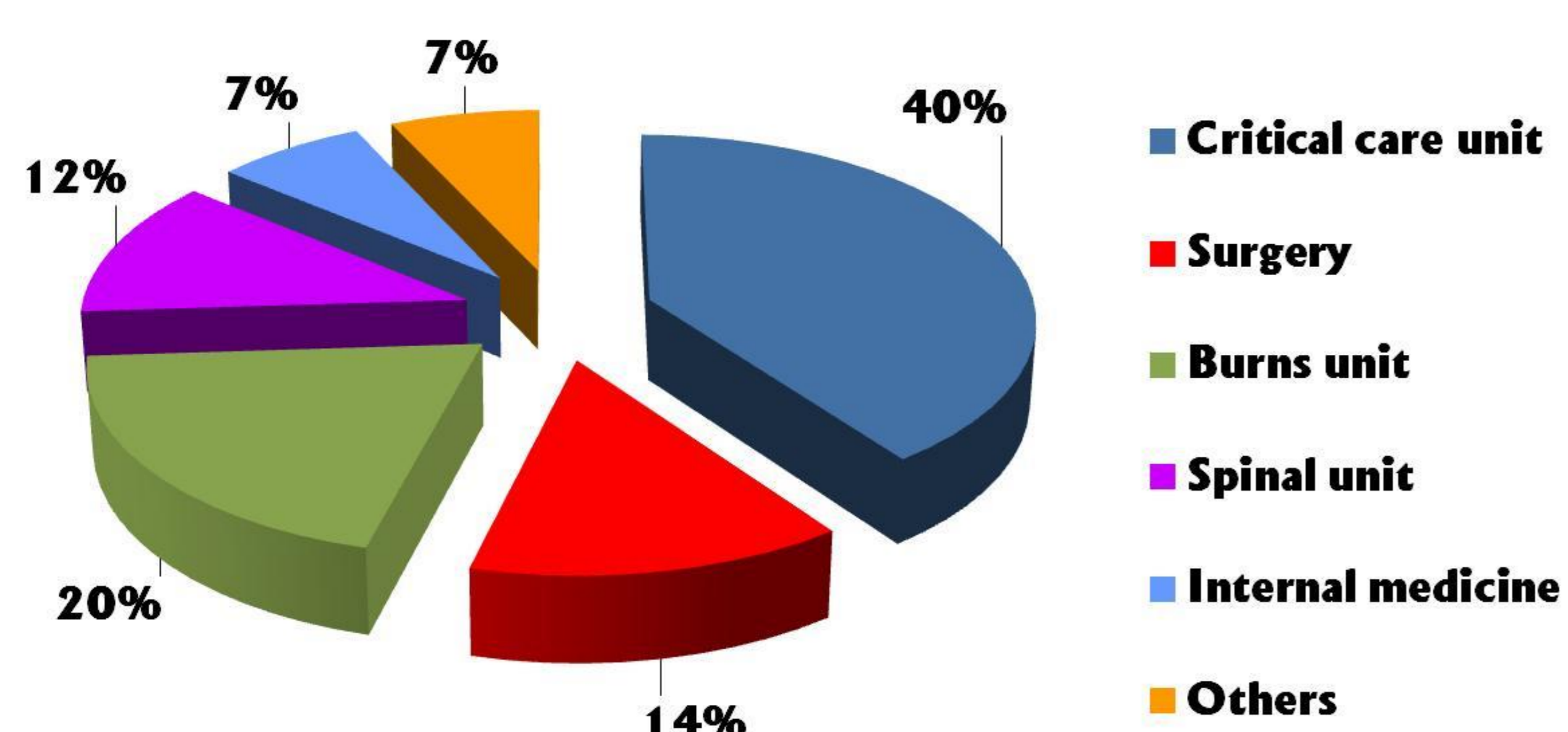


Fig.1-Systemic candidiasis/unit in CTO Hospital of Turin (Italy) (2012-2013)

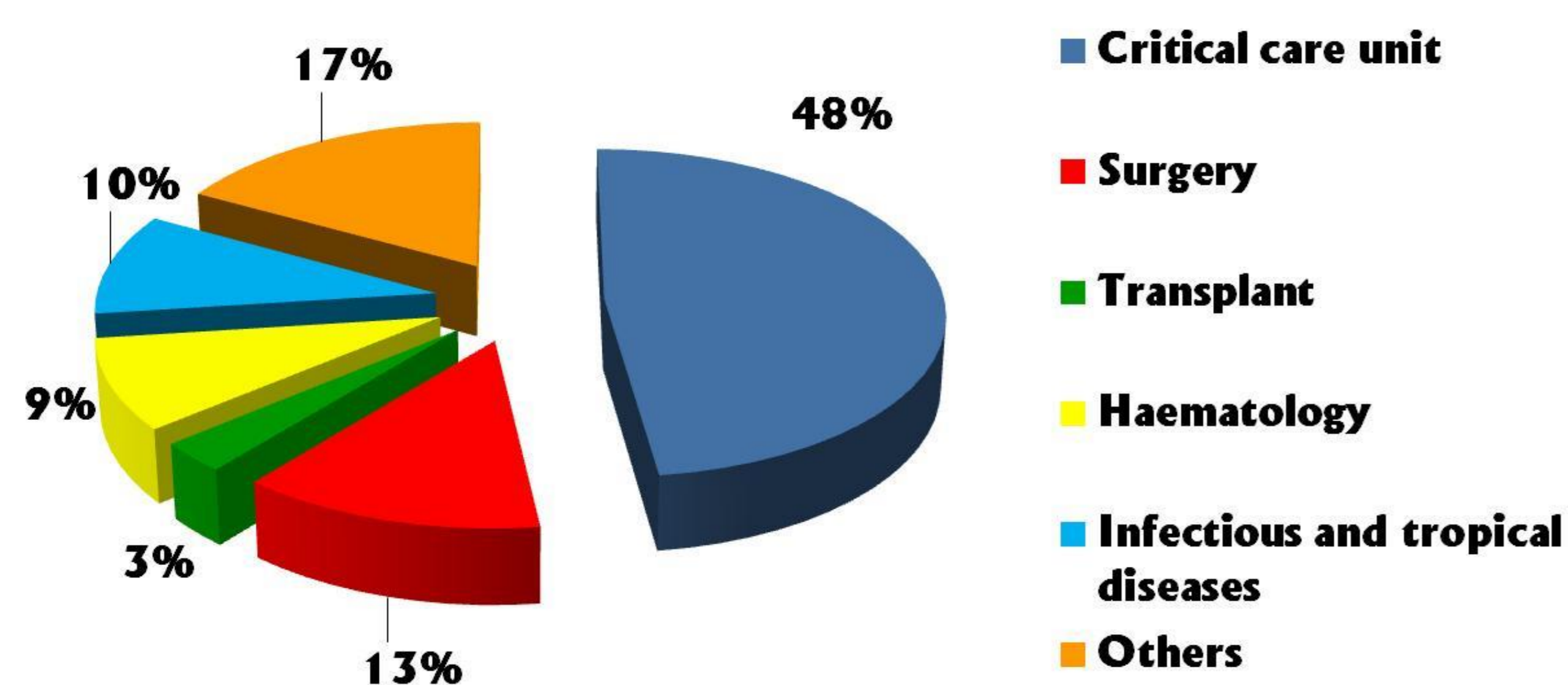


Fig.2-Systemic candidiasis/unit in La Pitié-Salpêtrière-Charles Foix Hospital of Paris (France) (2012-2013)

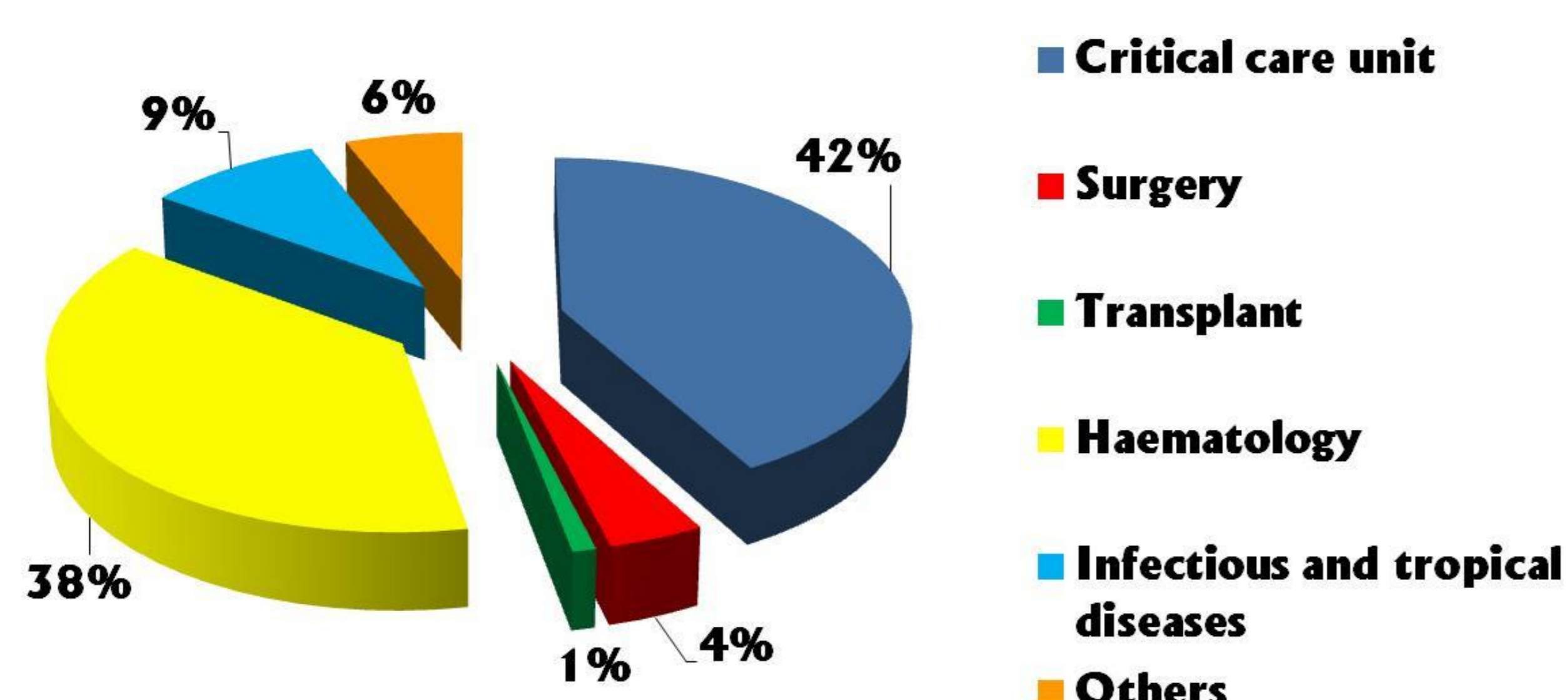


Fig.3-Systemic aspergillosis/unit in La Pitié-Salpêtrière-Charles Foix Hospital of Paris (France) (2012-2013)

Sex/ Age	Candidiasis		Aspergillosis
	Turin	Paris	Paris
Male	78 %	65 %	68%
Female	22 %	35 %	32%
0-30	11 %	6 %	8%
31-60	22 %	45 %	47%
61-90	67 %	49 %	45%

Tab.1- Distribution of candidiasis and aspergillosis sorted by sex and age in Turin and Paris (2012-2013)

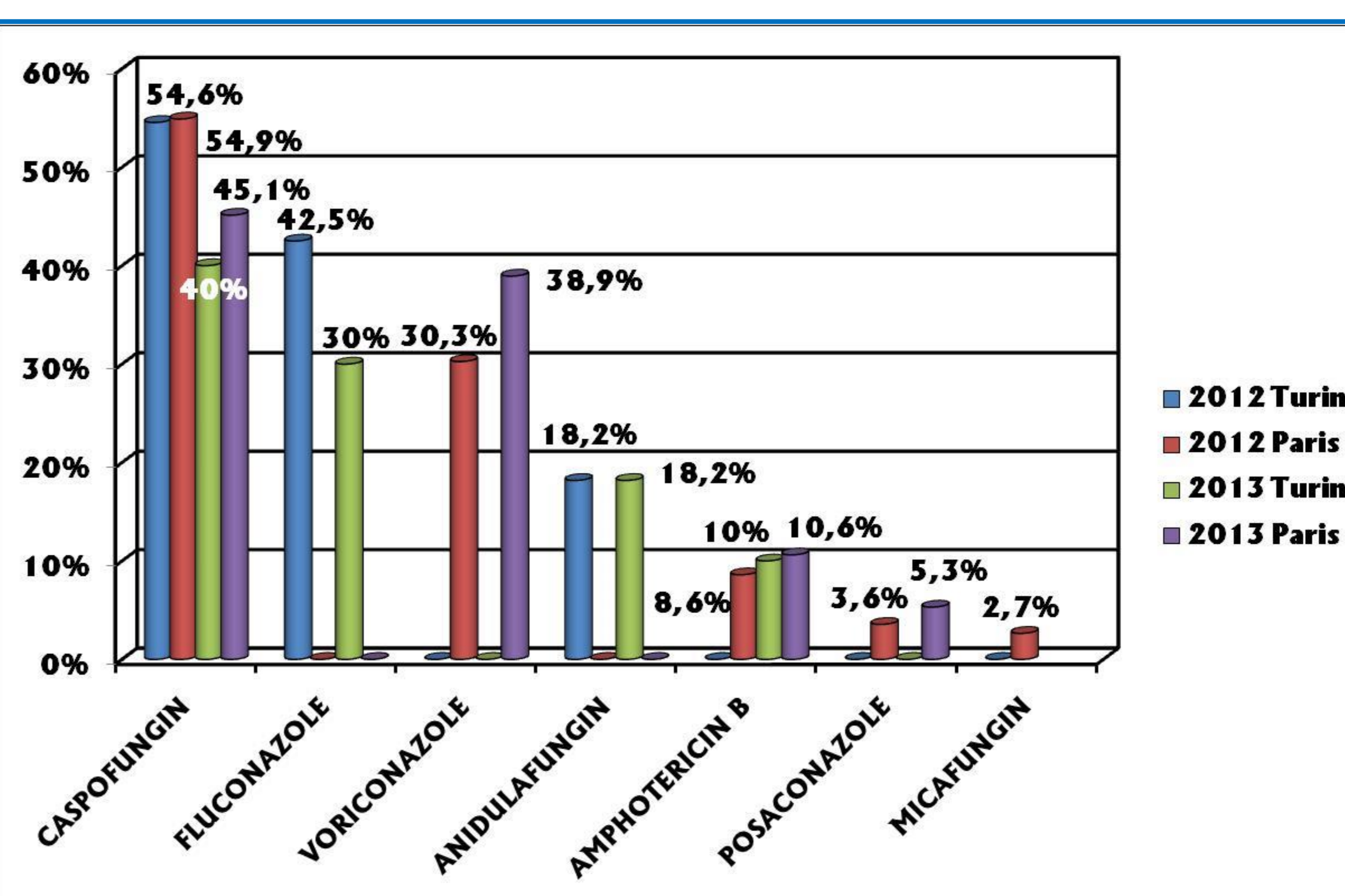


Fig.4- Antifungal drugs used in CTO Hospital of Turin and La Pitié-Salpêtrière- Charles Foix Hospital of Paris (France) (2012 and 2013)

Conclusions

A similar trend in candidiasis related IFIs, with no significant differences between the two hospitals, was detected. Conversely, there were difference in the use of drugs. To reduce the incidence and the mortality rate of IFI, the therapeutic approach should take account the epidemiological picture but it is also important the hospital pharmacist's role. In fact, the hospital pharmacist together with hospital infections committee, can monitor and analyze consume, do epidemiological statistics and choose the best therapy for patients in terms of cost and efficacy.

References

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