

J. BELLEGARDE<sup>1</sup>, L. HASSEINE<sup>2</sup>, E. DEMONCHY<sup>3</sup>, K. RISSO<sup>3</sup>, C. ICHAI<sup>4</sup>, H. QUINTARD<sup>4</sup>, E.M. MAIZIERE<sup>4</sup>, R. COLLOMP<sup>1</sup>, V. MONDAIN<sup>3</sup>, F. LIEUTIER<sup>1</sup>.

<sup>1</sup> Pharmacy ; <sup>2</sup> Mycology Laboratory ; <sup>3</sup> Infectious Diseases Department ; <sup>4</sup> Intensive Care Unit  
University Hospital of Nice, France

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## Objectives

Fungal endocarditis is the most serious form of infective endocarditis. It is associated with high morbidity and mortality. In 2016, the Infectious Diseases Society of America (IDSA) updated Clinical Practice Guideline for the Management of Candidiasis<sup>1</sup> that strengthens the use of echinocandins for candidiasis' initial therapy. We report here a case of a nosocomial fungal endocarditis treated with echinocandins in Intensive Care Unit.

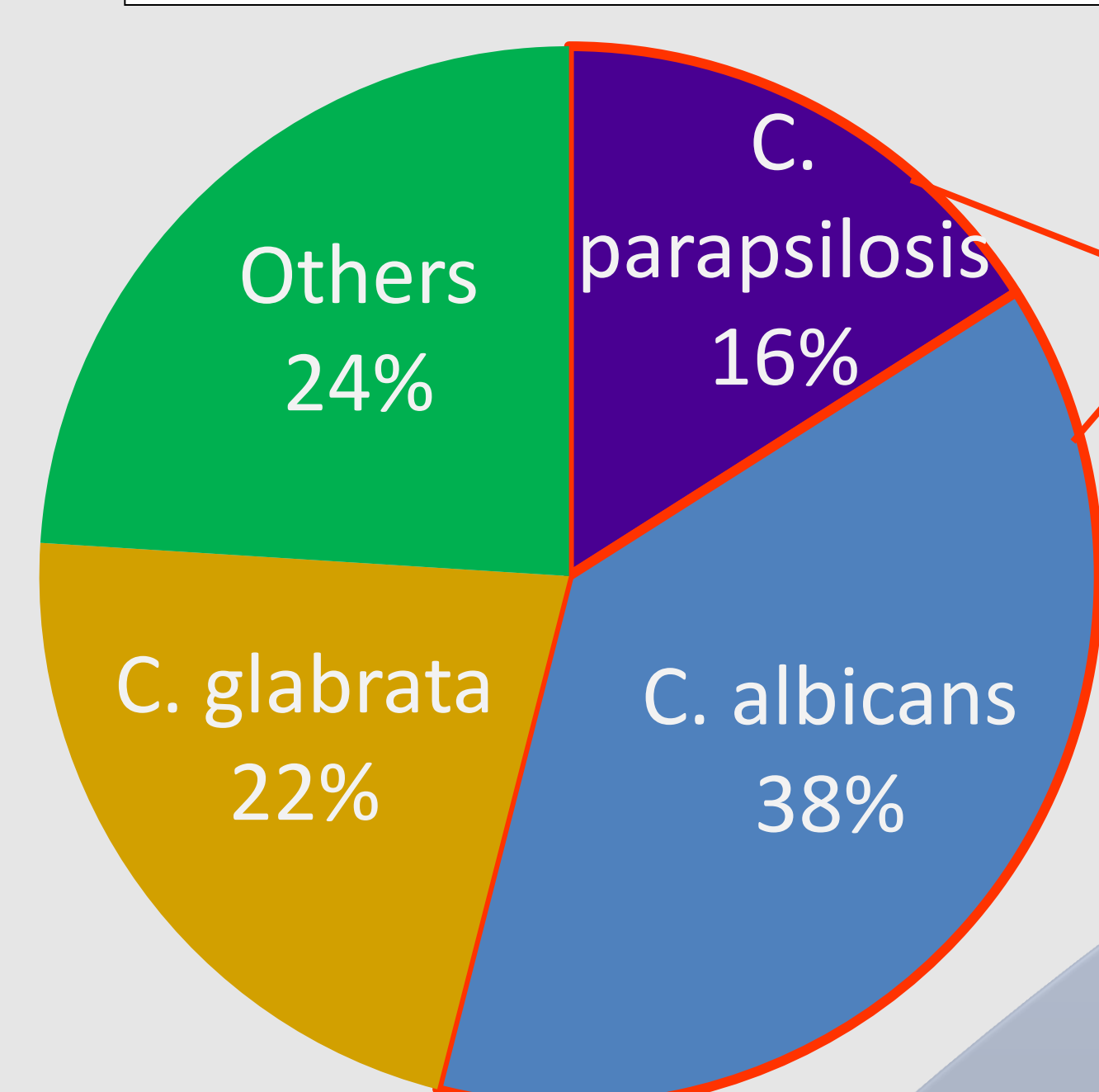
## Methods

A 53 year old woman was hospitalized for multiple traumas after a car accident. Her anti-infective treatment was collegially decided after multidisciplinary discussions. In addition, the local fungemia ecology is regularly followed since 2014 and pharmacists document each patient's treatment.



## Results - Discussion

Epidemiology of Candidemia in the University Hospital of Nice (2014-2016)



Any resistance to amphotericin B, caspofungin, voriconazole and fluconazole

IDSA Guideline (2016): Clinical Practice Guideline for the Management of Candidiasis

**14<sup>th</sup> of July 2018**

• Positive additional blood cultures to a **Candida glabrata** with a **caspofungin intermediate susceptibility**

→ Caspofungin stopped and switched for **Lipid Formulation AmB (LFAmB) 225mg daily** (the 2 *Candida* strains were susceptible) **and flucytosin 3g x 4 daily**

• Association continued for **8 weeks after the first negative blood culture**, 4 days after the switch to LFAmB.

**11<sup>th</sup> of July 2018**

• Documentation of **endocarditis**  
→ Increase of **caspofungin daily dose to 140mg** (surgical treatment refuted because of risk of bleeding and haemodynamic context of the patient)

• **6 positive fungal blood cultures under caspofungin treatment** (*C. albicans* was susceptible)

→ Continuation of caspofungin treatment until identification

**4<sup>th</sup> of July 2018**

• Diagnosis of a nosocomial **Candida albicans fungemia**

→ Introduction of a probabilistic treatment with **caspofungin 70mg daily**

• All intravenous devices were removed

*C. albicans* sensitivity to antifungal drugs (E-test technique)

03-07-2018	
Origin: blood culture	<i>C. albicans</i>
Amphotericin B	0,19 (S)
Caspofungin	0,094 (S)
Voriconazole	0,004 (S)
Fluconazole	0,125 (S)

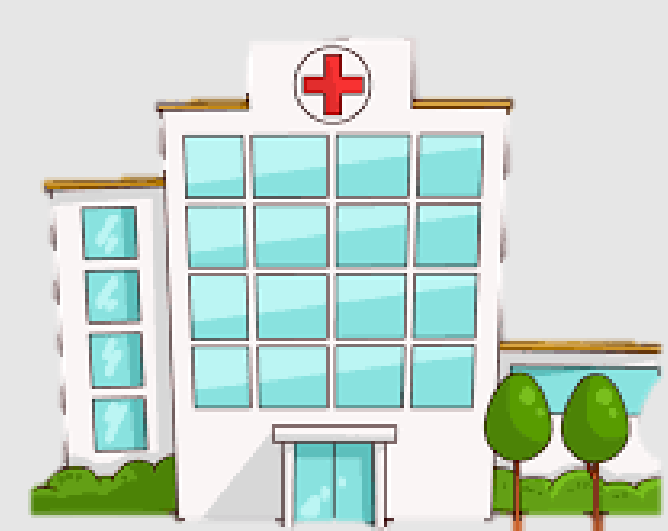
**Transition to fluconazole?** (*C. albicans* fluconazole-susceptibility consistent with our local ecology data)

*C. glabrata* and *C. albicans* sensitivity to antifungal drugs (E-test technique)

06-07-2018		
Origin: blood culture	<i>C. glabrata</i>	<i>C. albicans</i>
Amphotericin B	1 (S)	0,25 (S)
Caspofungin	<b>0,125 (S)</b>	0,094 (S)
Voriconazole	<b>3 (R)</b>	0,006 (S)
Fluconazole	<b>12 (SDD)</b>	0,38 (S)

**27<sup>th</sup> of June 2018**

• Patient with no significant medical history admitted in Intensive Care Unit



## Conclusion

❖ The patient's infection was successfully managed thanks to the **good collaboration** between physicians, infectious diseases specialists, microbiologists and pharmacists.  
→ key element of an **antimicrobial stewardship plan**<sup>2</sup>.



❖ Transition to fluconazole was considered in the light of *C. albicans* fluconazole-susceptibility consistent with our local ecology (100% of *C. albicans* strains susceptible to fluconazole).  
→ keep in mind the **importance of documentation** isolates sensitivity, particularly with the increasing resistance of *Candida spp* to echinocandins<sup>2,3,4</sup>, and adapting the treatment according to the **local fungal ecology**.



<sup>1</sup>Pappas PG, Kauffman CA, Andes DR, et al. Clinical practice guideline for the management of candidiasis: 2016 update by the Infectious Diseases Society of America. Clin Infect Dis 2016 ; 62: e1-50.

<sup>2</sup>Perlin DS, Rautemaa-Richardson R, Alastruey-Izquierdo A. The global problem of antifungal resistance: prevalence, mechanisms, and management. Lancet Infect Dis 2017 ; 17: e383-e392

<sup>3</sup>Maubon D, Garnaud C, Calandra T, Sanglard D & Cornet M. Resistance of *Candida spp.* to antifungal drugs in the ICU: where are we now? Intensive Care Med 2014 ; 40: e1241-1255

<sup>4</sup>Perlin DS. 2014. Echinocandin resistance, susceptibility testing and prophylaxis: implications for patient management. Drugs 2014 ; 74: e1573-1585