

# Heart transplant recipient: a new risk factor for invasive *Trichosporon inkin* infection?

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December 1, 2023

Techniques in Medical Communication: Infectious Diseases

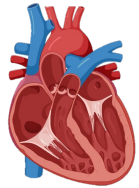
No conflicts of interest



# A patient with fragile heart ...

**Hospitalized from 02/08 to 01/09/22 for acute heart failure**

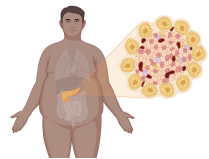
## Medical history



**Dilated cardiomyopathy w/ biventricular dysfunction  
(residual LVEF 15%)**



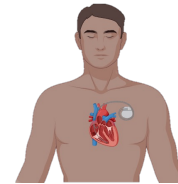
**Latent tuberculosis treated with RIMIFON®**



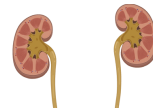
**Non-insulin-dependent type 2 diabetes**

**Moderate obesity (BMI > 30)**

## Surgical history

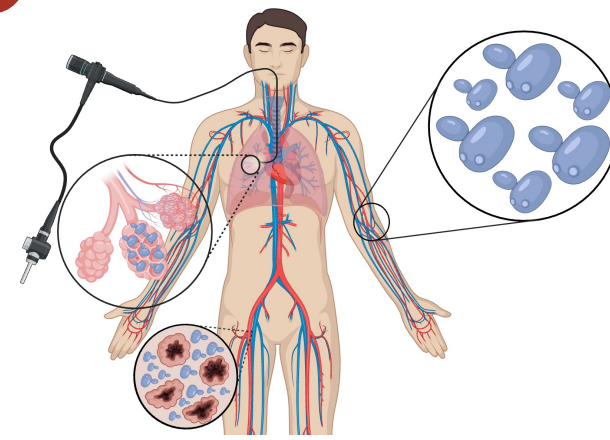
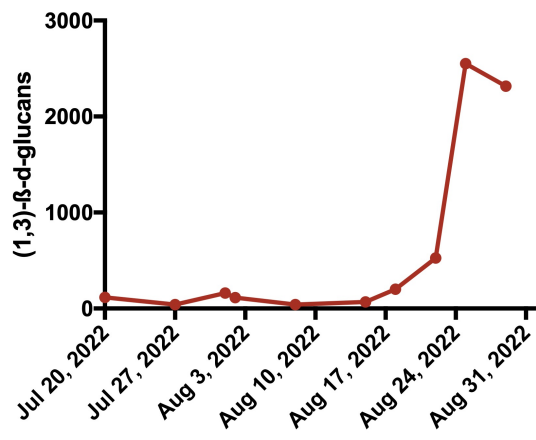
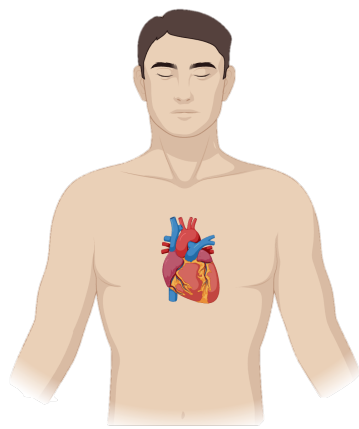
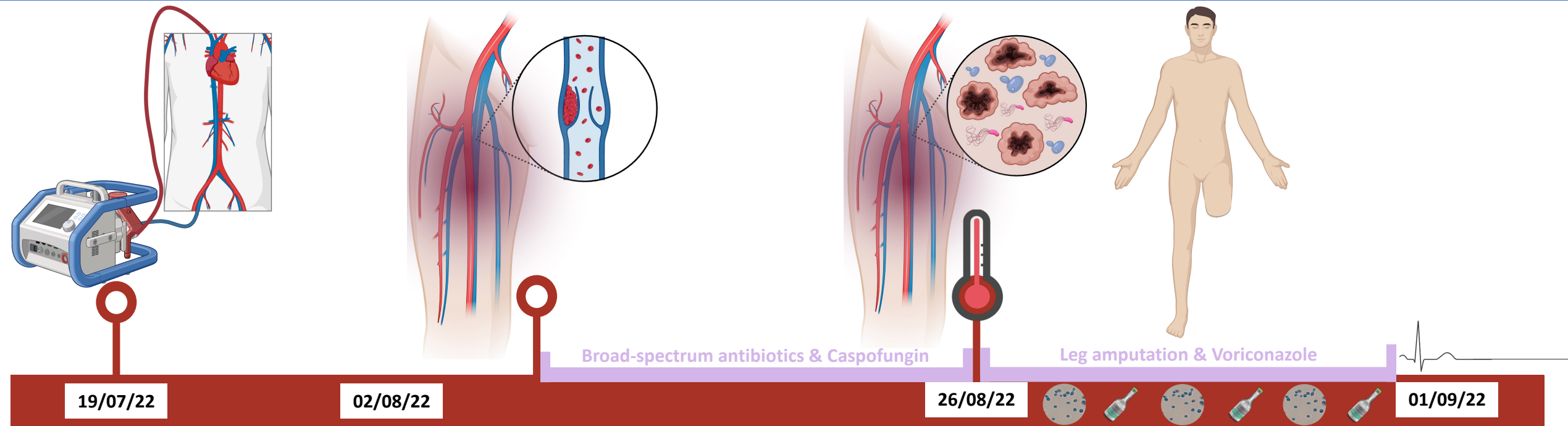


**Implantation of automatic implantable defibrillator  
in Iraq (2014). Change of device in May 2020.**



**Left partial nephrectomy secondary to clear cell  
carcinoma in 2021**

# ... Developed a rare infection



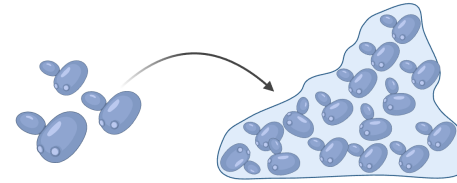
# The story of *Trichosporon inkin*



**Ubiquitous fungi**

**Commensals of skin and gastrointestinal tract**

C. Duarte-Oliveira *et al.*, Front Cell Infect Microbiol., 2017



**Extracellular compounds**

**Biofilm - polymeric extracellular matrix**

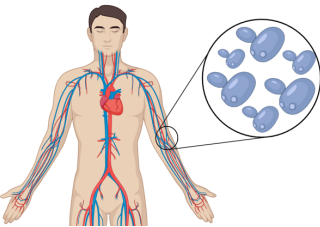
R. de Aguiar Cordeiro, J Med Microbiol., 2015



**Main etiologic agent of white piedra**

A. Bonifaz, Skin Appendage Disord., 2019

C. Zapata-Zapata *et al.*, Med Mycol Case Rep., 2023

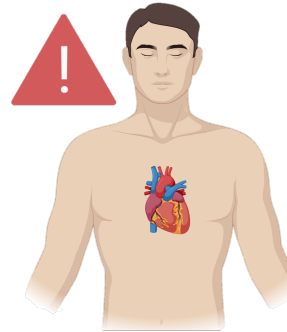


**203 cases of invasive *Trichosporon* infection between 1994 to 2015**

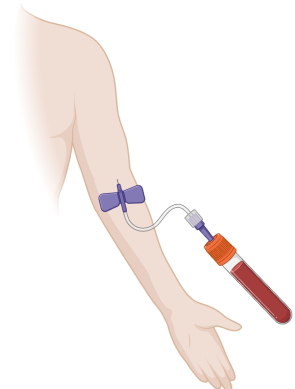
**Mostly in immunocompromised patients (60%)**

***T. inkin* more prevalent in recent surgery & SOT**

J. de Almeida Júnior & C. Hennequin, Front Microbiol., 2016



**Since 2015 → several cases described in heart transplantation context**



**Direct examination & culture on blood cultures (BC) or biopsies**

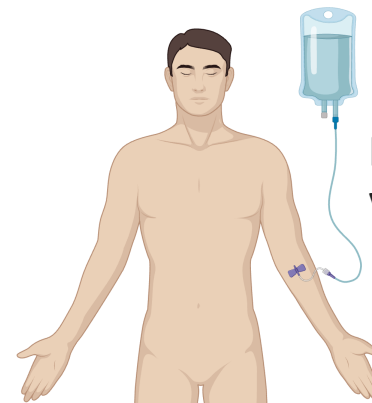
**Sensitivity of BC  $\approx$  50%**

**Cross-reaction for the cryptococcal antigen**

**Heterogeneity of glucan positivity**

M C Arenrup, Clin Microbiol Infect., 2014

J. de Almeida Júnior & C. Hennequin, Front Microbiol., 2016



**Naturally resistant to echinocandins**

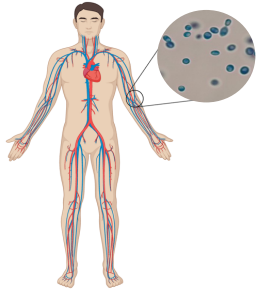
**Voriconazole > Amphotericin B**

S. C-A Chen, Lancet Infect Dis., 2021

M C Arenrup, Clin Microbiol Infect., 2014



# Take home message - Trichosporonosis



**Fever resistant to echinocandins in a transplant recipient**

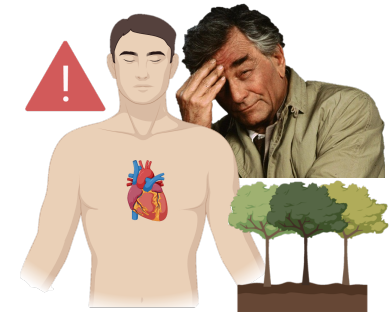


**Suspect a basidiomycetous infection**

**Environmental investigation in heart transplant cases**

No contamination of graft fluids

Sampling of surfaces and equipments used during hospitalisation



**Mapping patients for fungal colonisation**



**Low sensitivity of current diagnostic methods**

Need to develop new tools

