

# The challenge of *Candida* meningitis/ventriculitis over ten years

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## Introduction

*Candida* meningitis/ventriculitis of the central nervous system (CNS) though rare, causes significant morbidity and mortality and presents a clinical challenge. We report cases managed in a national neurosurgical centre over 10 years.

## Methods

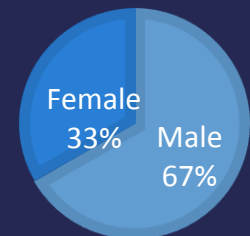
The aim of this study was to retrospectively review the presentation, diagnosis, management and outcome of *Candida* meningitis/ventriculitis over ten years. Positive cerebrospinal fluid (CSF) culture results from January 2010 to December 2020 were identified, with review of healthcare records and electronic information systems to collate patient data.

## Results

*Candida* spp. were isolated from 29 CSF samples representing infection in 12 patients.

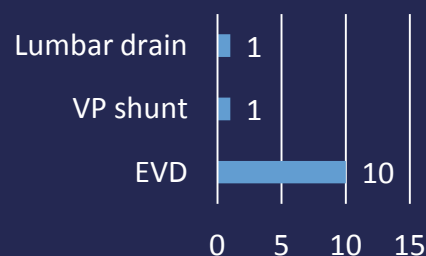
### Patient Characteristics

Median age: 47 years



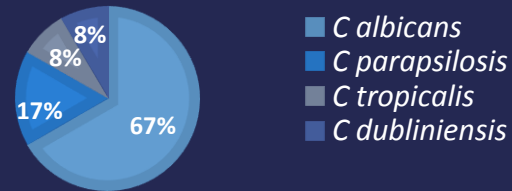
- 42% of patients were colonised with *Candida* sp.
- 92% of patients had recent antibacterial exposure

All patients had a CNS device in situ.

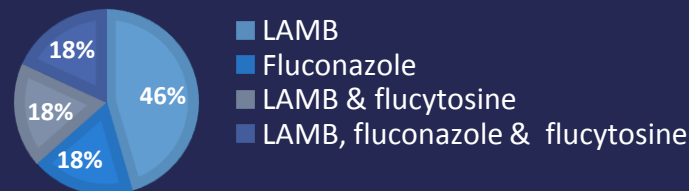


## Results

### *Candida* species



### Treatment



- Median treatment duration: 22.5 days (range 11-76 days)
- CNS device removal occurred in 92% of cases
- On discharge, Modified Rankin Scales (MRS) were 0 (n=1), 1 (n=1), 3 (n=1), 4 (n=4), 5 (n=3) and 6 (n=1). One patient was lost to follow-up.

## Conclusion

- *Candida* meningitis/ventriculitis is a serious complication associated with neurosurgery and indwelling CNS devices.
- Our findings are in keeping with previous studies which report *Candida albicans* as the predominant species.<sup>1</sup>
- Liposomal Amphotericin B is recommended for initial treatment and removal of the infected CNS device is required to eradicate infection.<sup>2</sup>

VP=Ventriculoperitoneal

EVD=External ventricular drain

LAMB=Liposomal amphotericin B

Modified Rankin Scale- A scale for measuring the degree of disability or dependence in daily activities of patients who have suffered a stroke or other cause of neurological disability. 0=no symptoms, 6=death

1. Teresa A. Geers, Steven M. Gordon, Clinical Significance of *Candida* Species Isolated from Cerebrospinal Fluid Following Neurosurgery, *Clinical Infectious Diseases*, Volume 28, Issue 5, May 1999, 2. Passas et al. Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America, *Clinical Infectious Diseases*, Volume 62, Issue 4, 15 February