



PROFILE OF *CANDIDA* SPECIES URINARY TRACT INFECTION IN PATIENTS OF INTENSIVE CARE UNIT UNIVERSITAS GADJAH MADA ACADEMIC HOSPITAL 2020 – 2023

Profil Infeksi Saluran Kemih spesies Candida pada Pasien Unit Perawatan Intensif Rumah Sakit Akademik Universitas Gadjah Mada 2020 – 2023

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Background: *Candida* species have been reported to be the most common fungal causative agents of urinary tract infections (UTI) in the intensive care unit (ICU) – causing up to 20 - 25% of UTI.

Objectives: This study aims to create profiles of patients with *Candida* spp. UTI, antifungal administration, *Candida* species accounting for UTI and mortality rate in ICU of *Universitas Gadjah Mada Academic Hospital*.

Methods: This study was a retrospective, cross-sectional, descriptive analysis using electronic health records from ICU patients of *Universitas Gadjah Mada Academic Hospital* with positive *Candida* spp. urine culture 2020–2023.

Results: 46 women (57.5%) and 34 men (42.5%) had positive *Candida* urine cultures – with majority in age group ≥ 60 years old (63.75%) with prior cardiovascular disorders (17.5%). Correlation established between >7 days of ICU stay and *Candida* spp. UTI – occurring in 64 patients. The majority of ICU patients with *Candida* spp. UTI received invasive procedures (60%). 77 patients (96.25%) had primary diagnosis of Non-HAIs. 35 *Candida tropicalis* isolates (43.75%), 31 *Candida albicans* isolates, 4 *Candida glabrata* isolates and 3 *Candida parapsilosis* isolates were found in urine cultures of ICU patients. Fluconazole (83.75%) were the most frequent antifungal administered. A mortality rate of 48.75% was demonstrated in ICU patients with *Candida* spp. UTI.

Conclusions: Prevalence of *Candida* spp. UTI in ICU patients of *Universitas Gadjah Mada Academic Hospital* increases when patients are females, ≥ 60 years old, prior disease and complications of cardiovascular disease, stay >7 days in the ICU, urinary catheter usage and primary diagnosis of Non-HAIs. Fluconazole is the most frequent antifungal administered. *Candida tropicalis* was identified as the most frequent causative agent of UTI in ICU patients with a mortality rate of 48.75% is found in ICU patients with *Candida* spp. UTI.

Keywords: *Candida*, UTI, profile, academic hospital, retrospective

ABSTRAK

Latar belakang: Spesies *Candida* telah dilaporkan sebagai agen penyebab infeksi saluran kemih (ISK) yang paling umum di unit perawatan intensif (ICU) – menyebabkan 20 - 25% ISK.

Tujuan: Penelitian ini bertujuan untuk membuat profil penderita ISK *Candida* spp., pemberian antijamur, spesies *Candida* yang menyebabkan ISK dan angka kematian di ICU Rumah Sakit Akademik Universitas Gadjah Mada.

Metode: Penelitian ini merupakan penelitian retrospektif, *cross-sectional*, analisis deskriptif menggunakan rekam kesehatan elektronik dari pasien ICU Rumah Sakit Akademik Universitas Gadjah Mada yang positif kultur urin *Candida* spp. 2020–2023.

Hasil: 46 perempuan (57,5%) dan 34 laki-laki (42,5%) mempunyai kultur urin *Candida* positif – dengan mayoritas pada kelompok umur ≥ 60 tahun (63,75%) dengan riwayat gangguan kardiovaskular (17,5%). Korelasi ditemukan antara >7 hari rawat ICU dan ISK *Candida* spp.– terjadi pada 64 pasien. Mayoritas pasien ICU dengan ISK *Candida* spp. menerima prosedur invasif (60%). 77 pasien (96,25%) memiliki diagnosis utama *Non-HAIs*. Pada kultur urin pasien ICU ditemukan 35 isolat *Candida tropicalis* (43,75%), 31 isolat *Candida albicans*, 4 isolat *Candida glabrata*, dan 3 isolat *Candida parapsilosis*. Flukonazol (83,75%) merupakan antijamur yang paling sering diberikan. Angka kematian sebesar 48,75% ditunjukkan pada pasien ICU dengan ISK *Candida* spp..

Kesimpulan: Prevalensi ISK *Candida* spp. pada pasien ICU Rumah Sakit Universitas Gadjah Mada meningkat bila pasien berjenis kelamin perempuan, berusia ≥ 60 tahun, memiliki penyakit sebelumnya dan komplikasi penyakit kardiovaskular, dirawat di ICU >7 hari, penggunaan kateter urin, dan diagnosis utama *Non-HAIs*. Flukonazol adalah antijamur yang paling sering diberikan. *Candida tropicalis* teridentifikasi sebagai agen penyebab ISK yang paling sering pada pasien ICU dengan angka kematian sebesar 48,75% ditemukan pada pasien ICU dengan ISK *Candida* spp.

Kata Kunci: *Candida*, ISK, profil, rumah sakit akademik, retrospektif