Journal of Bacteriology and Mycology

Open Access

Austin Publishing Group

Case Report

A Case Urinary Tract Infection of *Trichosporon asahii* in a Patient with Multiple Fractures

Sahin R*

Department of Microbiology Laboratory, Mersin City Hospital, Turkey

***Corresponding author:** Rasim Sahin, Department of Microbiology Laboratory, Mersin City Hospital, 33010, Mersin, Turkey

Received: February 20, 2019; **Accepted:** March 22, 2019; **Published:** March 29, 2019

Abstract

Trichosporonosis is an emerging infection predominantly caused by *Trichosporon asahii*, which is a ubiquitous and exclusively anamorphic yeast. Risk factors such as prolonged multiple antimicrobials, indwelling catheter and comorbidities such as anemia and hypoalbuminemia may be contributory to the establishment of a nosocomial opportunistic *T. asahii* infection. *T. asahii* urinary tract infection is rarely reported. *T. asahii* was isolated from urine of a case immunocompetent patient with fracture of malar and maxiller bones. *T. asahii* was identified phenotypically by manual and confirmed (98%, confidence) with automated systems. Phoenix (BD)

Keywords: *Trichosporon asahii*; Multiple fractures; Urinary tract infection

Introduction

Trichosporon has been isolated from soil, outdoor and indoor environmental sources including hospitals. They may constitute normal flora of the human skin, vagina, respiratory and gastrointestinal tracts [1]. Virulence factors for Trichosporonosis include glucuronoxylomannan in cell wall, proteases, phospholipases and the ability to form biofilms. They form true mycelia, blastoconidia and arthroconidia. Virulence factors and morphological structures may be exhibited differently in different species. Their ubiquity and biofilm formation may create confusion between colonized and truly infected patients. Although invasive Trichosporonosis has been studied, however, there are no specific guidelines for clinical interpretation of Trichosporon recovery in urine [2] Azotemia and aggravation of renal dysfunction leading to renal failure may rarely occur [3].

Case

T. asahii was isolated from urine from a 71-year-old male patient with acute respiratory failure, fracture of the malar and maxillary bones. Urine sample inoculated with standard loop on blood agar and revealed significant growth of dry creamy white, slightly farinous, powdery, crumb-like at the center with wide margin containing, depp transverse fissures colonies after overnight incubation (Figure 1). Methylene blue stain mount revealed septate hyaline hyphae with arthroconidia and few budding yeast cells (Figure 2). The yeast was identified to be *T. asahii* with morphology on blood agar, methylene blue stain and confirmed (98%, confidance with automated system (Phoenix, BD) WBC: 23.89×10^3/µl, %94.6 Neu, sedimentation:60mm, C reactive proteine:13.80 mg/dl.

Discussion

Trichosporon infections present diagnostic and therapeutic challenges. They are likely to surpass routine laboratory identification. Micromorphology (hyphae, pseudohyphae, arthroconidia, blastoconidia) [2]. Automation based on repeated isolation of *T. asahii*, associated pyuria and swift response to antifungal therapy

Figure 1: *Trichosporon sahii* colonies on blood agar.

helped delineate *T. asahii* UTI. Risk factors such as use of prolonged multiple antimicrobials, indwelling catheter and comorbidities such as anemia and hypoalbuminemia in the cases reported here may be contributory to the establishment of *T. asahii* infection. The multiplicity and long duration of comorbidities makes it difficult to arrive at the causation of Trichosporon transmission in these cases. The infection is most likely to be nosocomial [1,4] Although Trichosporon is ubiquitous and colonizes many areas, it is a known opportunistic pathogen causing emergent and invasive infections in tertiary care hospitals worldwide [2]. Trichosporon colonization in the first patient may be due to colonization and biofilm formation on indwelling catheter which may have furthered the infection of urinary tract [4,5]. Non culture based methods have been suggested to differentiate between colonized and infected patients. Prolonged undiagnosed or untreated infections can lead to disseminated Trichosporonosis, which may be indicated by repeatedly positive urine cultures.

A high index of clinical and microbiological suspicion is required for optimal diagnosis of Trichosporon infections. Attributing pathogenicity after diagnosis may be difficult in the presence of comorbidities with variable clinical response and administration of multiple antimicrobials. A high index of clinical and microbiological

Citation: Sahin R. A Case Urinary Tract Infection of *Trichosporon asahii* in a Patient with Multiple Fractures. J Bacteriol Mycol. 2019; 6(2): 1100.

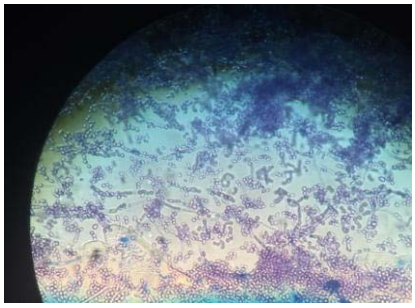

Figure 2: Methylene blue stain mount revealed septate hyaline hyphae with arthroconidia and few budding yeast cells.

suspicion is required for optimal diagnosis of Trichosporon infections. Attributing pathogenicity after diagnosis may be difficult in the presence of comorbidities with variable clinical response and administration of multiple antimicrobials. Dedicated efforts by clinicians and microbiologists targeted at infection control and further research are needed to optimize management and control of Trichosporon infections.

References

1. Sun W, Su J, Xu S, Yan D. *Trichosporon asahii* causing nosocomial urinary tract infections in intensive care unit patients: genotypes, virulence factors and antifungal susceptibility testing. J Med Microbiol. 2012; 61: 1750-1757.
2. Colombo AL, Padovan ACB, Chaves GM. Current knowledge of *Trichosporon* spp. and Trichosporonosis. Clin Microbiol Rev. 2011; 24: 682-700.
3. Sood S, Pathak D, Sharma R, Rishi S. Urinary tract infection by *Trichosporon asahii*. Indian J Med Microbiol. 2006; 4: 294-296.
4. Kumar S, Bandyopadhyay M, Mondal S, Pal N. A rare case of nosocomial urinary tract infection due to *Trichosporon asahii*. J Glob Infect Dis. 2011; 3: 309-310.
5. Xiao M, Guo LN, Kong F. Practical identification of eight medically important Trichosporon species by Reverse Line Blot hybridization (RLB) assay and Rolling Circle Amplification (RCA) Med Mycol. 2013; 51: 300-308.

J Bacteriol Mycol - Volume 6 Issue 2 - 2019
ISSN : 2471-0172 | www.austinpublishinggroup.com

Citation: Sahin R. A Case Urinary Tract Infection of *Trichosporon asahii* in a Patient with Multiple Fractures. J Bacteriol Mycol. 2019; 6(2): 1100.