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CASE REPORT

An Extremely Rare Case of Asymptomatic *Acinetobacter junii*

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ABSTRACT

We present an extremely rare case of Acinetobacter species isolated from a urine sample of45-year-old male. *Acinetobacter junii* is the newly emerging non-Acinetobacter baumanii rarely reported as a human pathogen. In addition, few cases had been reported in the literature with variable presentation and underlying pathology. We report a unique case of *Acinetobacter junii* in a patient with no underlying risk factors identified. Our case illustrates an unusual scenario where Acenitobacter junii spp isolates have been grown in urine culture with no underlying renal pathology or any long-term use of antimicrobial drugs or malignancy. *J Microbiol Infect Dis 2022; 12(3):136-138*.

Keywords: *Acinetobacter junii, urine culture, asymptomatic*

INTRODUCTION

Acinetobacter is a gram-negative coccobacillus that naturally inhabits hot and humid climates [1]. Acinetobacters are ubiquitous and have a tremendous colonizing capacity, so helping to explain their role in causing nosocomial infections, particularly in patients with underlying diseases and risk factors, e.g. prior broad-spectrum antibiotic therapy, malignancy, central venous catheter, mechanical ventilation [2]. Out of 50 species of Acinetobacter, newly emerging *Acinetobacter junii* is one species infrequently reported as a human infection [3]. According to our knowledge, we are presenting the first rare case of *A. junii* with urinary tract infection in an asymptomatic patient without underlying pathology or known risk factors.

CASE

A 45-year-old male with no medical underlying medical condition underwent an annual health check-up. The laboratory investigations were within normal range, including complete blood count, liver function test, kidney function test, lipid profile, and blood sugar. On radiography, ultrasound of the whole abdomen revealed bilateral non-obstructive renal concretions of 2.6 mm and 2.7 mm, clinically insignificant, whereas routine urine microscopy showed 10-12/hpf pus cells, 1-2/hpf epithelial cells, and 3+ bacteria. Because of the laboratory investigations of increased pus cells in the urine routine and radiological presentation of renal concretions, the patient was advised for a urine culture. The urine specimen was collected in an appropriate sterile manner. It was followed by plating by T streaking method with an inoculating loop of 4 mm diameter (10 µl of un-centrifuged urine specimen) on blood agar and MacConkey's agar in the Department of Microbiology. Inoculated plates were incubated overnight at 37 ^{0}C.

Pure round-shaped and translucent colonies were isolated on culture in significant counts (>1×10^5 cfu/ml) on sheep blood agar (Fig. 1) and Mac Conkey agar plates (Fig. 2). On microscopic examination Gram-stained smear revealed small Gram-negative coccobacilli (Fig. 3). The isolate tested positive for catalase, negative for cytochrome oxidase and indole. Following primary isolation, the isolate was subjected to automated phenotyping using the VITEK 2 Gram-Negative Identification card (BioMeriux), following the manufacturer's instructions. Primary phenotypic testing identified the isolate as *Acinetobacter junii* and susceptible to all the antimicrobials: aminoglycosides (amikacin, gentamicin,

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tobramycin, and neomycin), Fluoroquinolones, tetracycline, Cephalosporin's, norfloxacin and sulphonamides.

Figure 1. Non-hemolytic opaque round colonies on sheep blood agar.

DISCUSSION

Acinetobacter species are opportunistic pathogens [3], known to cause community-acquired infections [4], and recognized for their ability to develop multi-drug resistant mechanisms, making the treatment often difficult [5]. Clinical forms of Acinetobacter infections include mainly the respiratory tract, bloodstream infections, peritoneum, urinary tract infection, surgical wounds, meningitis, skin, and soft tissue infections, while eye infections are rare [3]. In addition, *Acinetobacter junii* rarely causes infections in humans [6] without underlying pathology, whereas it mainly affects patients who had prior antimicrobial therapy, invasive procedures, or malignancy [5].

Few cases of *Acinetobacter junii* have been reported in earlier in patients with underlying renal conditions such as pyelonephritis, and hydronephrosis, along with long-term use of antimicrobials or underwent any invasive procedures [2,6]. Linde et al. described a catheter-related bloodstream infection in oncology patients caused by *A. junii* [7]. Henao-Martinez et al. described a case of *A. junii*-johnsonii strain identified from community-onset non-traumatic cellulitis [8]. Broniek reported a case of corneal ulceration due to *A. junii* [9].

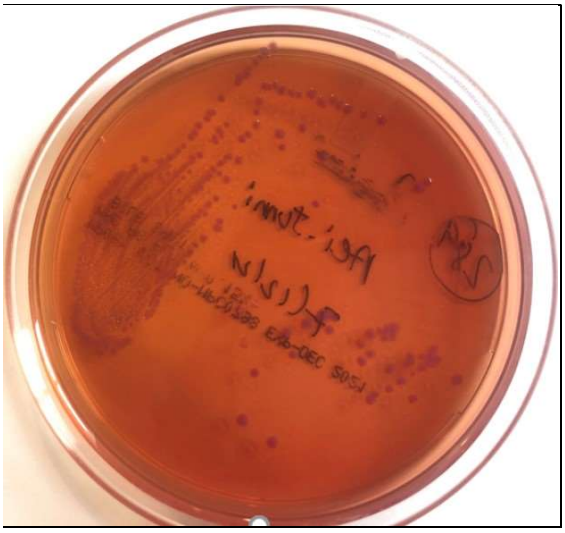

Figure 2: Non-lactose fermenting translucent colonies on Mac-Conkey agar.

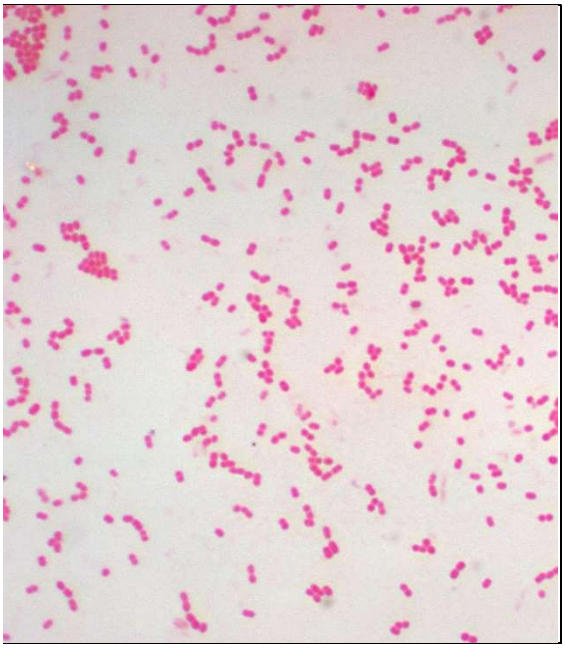

Figure 3: Microscopic examination of a Gram-stained smear revealed small Gram-negative coccobacilli.

This is an entirely perspicacious scenario where he was diagnosed with *A. junii* infection in urine culture with no underlying renal pathology and long-term use of antimicrobial drugs or malignancy.

CONCLUSION

This case study highlights the importance of *Acinetobacter junii* isolates in urine culture in patients with no underlying risk factors. To conclude, the present case study reports an entirely different case scenario in which the patient had no clinical presentation or underlying medical condition where he was diagnosed with a very rare human pathogen,

i.e., *Acinetobacter junii*, in the urine sample. Therefore, newly emerging infections caused by *A. junii* with or without any other underlying condition, i.e., *A. junii* isolates, should be monitored.

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