

INTISARI

Devitasari, A. 2025. Identifikasi dan Uji Sensitivitas *Staphylococcus aureus* dan *Klebsiella pneumoniae* dari Sampel Urin Penderita Infeksi Saluran Kemih terhadap Antibiotik. Program Studi D4 Analis Kesehatan, Fakultas Ilmu Kesehatan, Universitas Setia Budi.

Infeksi Saluran Kemih (ISK) disebabkan oleh masuk dan berkembangnya mikroorganisme terutama bakteri patogen ke dalam saluran kemih, termasuk *Staphylococcus aureus* dan *Klebsiella pneumoniae*. Faktor risiko seperti kebersihan genital yang buruk, penggunaan kateter, usia lanjut, dan penyakit komorbid seperti diabetes meningkatkan kerentanan seseorang terhadap infeksi saluran kemih. Penelitian ini bertujuan untuk mengidentifikasi keberadaan kedua bakteri tersebut pada sampel urin penderita infeksi saluran kemih serta mengetahui pola sensitivitasnya terhadap beberapa jenis antibiotik.

Penelitian dilakukan menggunakan pendekatan analitik observasional dengan desain *cross sectional*. Sebanyak 10 sampel urin diperiksa melalui metode kultur menggunakan media selektif dan diferensial, pada media *Vogel Johnson Agar* digunakan untuk isolasi *Staphylococcus aureus* dan media *Mac Conkey Agar* digunakan untuk isolasi *Klebsiella pneumoniae*, dilanjutkan dengan identifikasi melalui uji pewarnaan Gram dan uji biokimia. Uji sensitivitas antibiotik pada media *Mueller Hinton Agar* dilakukan dengan metode difusi cakram (*Kirby-Bauer*) berdasarkan standar *Clinical and Laboratory Standards Institute* (CLSI).

Hasil penelitian menunjukkan bahwa dari 10 sampel urin, 1 sampel positif mengandung *Staphylococcus aureus* dan 2 sampel positif mengandung *Klebsiella pneumoniae*. *Staphylococcus aureus* menunjukkan sensitivitas tinggi terhadap Imipenem dan Tetrasiklin, sedangkan *Klebsiella pneumoniae* menunjukkan sensitivitas terhadap Gentamisin dan Imipenem, namun resisten terhadap Ampisilin.

Kata kunci: Urin, ISK, *Staphylococcus aureus*, *Klebsiella pneumoniae*

ABSTRACT

Devitasari, A. 2025. Identification and Antibiotic Sensitivity Testing of Staphylococcus aureus and Klebsiella pneumoniae Isolated from Urine Samples of Patients with Urinary Tract Infections. Bachelor's degree Program in Medical Laboratory Technology, Faculty of Health Sciences, Universitas Setia Budi.

Urinary Tract Infection (UTI) is caused by the entry and proliferation of microorganisms, especially pathogenic bacteria, into the urinary tract, including Staphylococcus aureus and Klebsiella pneumoniae. Risk factors such as poor genital hygiene, catheter use, advanced age, and comorbid diseases like diabetes increase a person's susceptibility to urinary tract infection. This study aimed to identify the presence of those two bacteria in urine samples from urinary tract infection patients and determine their antibiotic sensitivity patterns.

The study used an analytical observational approach with a cross-sectional design. A total of 10 urine samples were examined using culture methods with selective and differential media. Vogel Johnson Agar was used to isolate Staphylococcus aureus, and MacConkey Agar was used to isolate Klebsiella pneumoniae, followed by identification through Gram staining and biochemical tests. Antibiotic sensitivity testing was carried out on Mueller Hinton Agar using the disk diffusion method (Kirby-Bauer) based on the standards of the Clinical and Laboratory Standards Institute (CLSI).

The results showed that out of 10 urine samples, 1 sample was positive for Staphylococcus aureus and 2 samples were positive for Klebsiella pneumoniae. Staphylococcus aureus exhibited high sensitivity to Imipenem and Tetracycline, while Klebsiella pneumoniae showed sensitivity to Gentamicin and Imipenem but was resistant to Ampicillin.

Keywords: Urine, UTI, Staphylococcus aureus, Klebsiella pneumoniae