

## ABSTRAK

### **Hubungan antara Jenis Batu Ginjal *Staghorn* dan Non-*Staghorn* dengan Manifestasi Klinis Pasien**

Aditya Bayu Sena<sup>1)</sup> Indrawarman<sup>2)</sup> Eti Nurwening Sholikhah<sup>3)</sup>

Program Studi Kedokteran, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan, Universitas Gadjah Mada

#### Latar Belakang :

Batu ginjal biasanya terbentuk akibat kristalisasi berbagai mineral atau garam dalam urin dan idealnya dikeluarkan oleh tubuh melalui uretra. Sekitar 80-85% batu ginjal lewat secara spontan melalui saluran kemih, sedangkan sisanya yang tidak lewat dapat menjadi obstruktif. Batu ginjal dapat diklasifikasikan berdasarkan kompleksitasnya menjadi batu *staghorn* dan batu non-*staghorn*. Batu *staghorn* berkaitan dengan kejadian infeksi saluran kemih (ISK) berulang. Batu non-*staghorn* atau batu simpleks merupakan batu kaliks ginjal terisolasi yang berada di pelvis renalis. Insiden tertinggi kasus batu ginjal keseluruhan dialami oleh penduduk laki-laki dua kali lipat dibandingkan perempuan dengan puncaknya terjadi pada usia 55-64 tahun. Manifestasi klinis pasien dengan batu ginjal dapat bervariasi, mulai dari asimtomatik, nyeri pinggang, hidronefrosis, hematuria, demam, dan penurunan fungsi ginjal. Tingkat morbiditas dan mortalitas lebih tinggi pada batu *staghorn* yang tidak ditangani dengan segera. *Percutaneous Nephrolithotomy* (PCNL) masih tetap menjadi *gold standard* dalam terapi operasi pembedahan batu *staghorn*.

#### Tujuan :

Penelitian ini mengetahui hubungan antara jenis batu ginjal *staghorn* dan non-*staghorn* dengan manifestasi klinis pasien.

#### Metode :

Metode penelitian observasional analitik dengan pendekatan *cross sectional*. Penelitian ini menggunakan data sekunder dari rekam medis pasien batu ginjal di RSUP Dr. Sardjito Yogyakarta tahun 2018-2022. Pengolahan data sebanyak 80 sampel dilakukan dengan syarat memenuhi kriteria inklusi dan eksklusi. Analisis data menggunakan uji *Chi square* pada program IBM SPSS Statistics® version 25 dan uji *Wilcoxon theta* pada UNPAD SAS (Seri Analisis Statistik).

#### Kesimpulan :

Terdapat hubungan positif bermakna antara jenis batu ginjal *staghorn* dan non-*staghorn* dengan manifestasi klinis pasien (nyeri pinggang, hematuria, demam, ISK, hidronefrosis, dan penurunan fungsi ginjal).

Kata kunci : hubungan, batu ginjal, *staghorn*, manifestasi klinis, *cross-sectional study*.

## ABSTRACT

### **Hubungan antara Jenis Batu Ginjal Staghorn dan Non-Staghorn dengan Manifestasi Klinis Pasien**

Aditya Bayu Sena<sup>1)</sup> Indrawarman<sup>2)</sup> Eti Nurwening Sholikhah<sup>3)</sup>

Medical Study Program Faculty of Medicine Gadjah Mada University

#### *Background :*

*Kidney stones are usually formed due to the crystallization of various minerals or salts in the urine and are ideally excreted by the body through the urethra. About 80-85% of kidney stones pass spontaneously through the urinary tract, while the remainder that do not pass can become obstructive. Kidney stones can be classified based on their complexity into staghorn stones and non-staghorn stones. Staghorn stones are associated with recurrent urinary tract infections (UTIs). Non-staghorn stones or simplex stones are isolated renal calyx stones located in the renal pelvis. The highest overall incidence of kidney stone cases is experienced by men, twice as many as women, with the peak occurring at the age of 55-64 years. The clinical manifestations of patients with kidney stones can vary, ranging from asymptomatic, flank pain, hydronephrosis, hematuria, fever, and decreased kidney function. Morbidity and mortality rates are higher in staghorn stones that are not treated promptly. Percutaneous Nephrolithotomy (PCNL) still remains the gold standard in the surgical treatment of staghorn stones.*

#### *Objective :*

*This study aims to determines the relationship between the types of staghorn and non-staghorn kidney stones and the patient's clinical manifestations.*

#### *Method :*

*Analytical observational research method with a cross sectional approach. This study used secondary data from medical records of kidney stone patients at RSUP Dr. Sardjito Yogyakarta in 2018-2022. The selection and data processing of 80 samples was carried out on condition that they met the inclusion and exclusion criteria. Data analysis used the Chi square test in the IBM SPSS Statistics® version 25 program and the Wilcoxon theta test in UNPAD SAS (Statistical Analysis Series).*

#### *Conclusion :*

*There was a significant positive relationship between the types of staghorn and non-staghorn kidney stones and the patient's clinical manifestations (flank pain, hematuria, fever, UTI, hydronephrosis, and decreased kidney function). Distribution of the proportion of kidney stone patients predominantly experiencing mild staghorn and non-staghorn colic pain, macrohematuria in staghorn, no hematuria in non-staghorn, history of fever and UTI in staghorn while there is no fever and UTI in non-staghorn, grade 3 hydronephrosis in staghorn while grade 1 in non-staghorn, and decreased kidney function based on eGFR grade 4 in staghorn while grade 2 in non-staghorn.*

*Key words: correlation, kidney stones, staghorn, clinical manifestations, cross-sectional study.*