

ABSTRACT

Background: Extracorporeal Shock Wave Lithotripsy (ESWL) is a non-invasive method to treat kidney stones, but its effectiveness is influenced by various factors. This study aims to evaluate the effectiveness of ESWL on kidney stones at Dr. Sardjito General Hospital by analyzing the factors that influence it.

Methods: An analytic observational study with a cross-sectional design was conducted on kidney stone patients who underwent ESWL at Dr. Sardjito General Hospital from January to December 2023. Data on patient characteristics, stone location, stone density, and ESWL results were analyzed using chi-square and Kruskal-Wallis tests.

Results: Out of 110 patients, the overall success rate of ESWL was 68.18%. Stone location in the inferior had the lowest success rate (35%). There is significant correlation between frequency of ESWL and Stone Density ($p < 0.01$). There is no relationship between frequency ESWL and Body Mass Index (BMI) ($p = 0.069$).

Conclusion: ESWL is effective for the treatment of kidney stones, but factors such as stone location, stone density, and patient characteristics affect its success rate. Optimization of patient selection and ESWL technique is needed to improve therapeutic effectiveness.

Keywords: ESWL, kidney stone, stone location, stone density, body mass index

ABSTRAK

Latar Belakang: *Extracorporeal Shock Wave Lithotripsy* (ESWL) adalah metode non-invasif untuk menghancurkan batu ginjal, namun efektivitasnya dipengaruhi berbagai faktor. Penelitian ini bertujuan mengevaluasi efektivitas ESWL pada batu ginjal di RSUP Dr. Sardjito dengan menganalisis faktor-faktor yang mempengaruhinya.

Metode: Penelitian observasional analitik dengan desain cross-sectional dilakukan pada pasien batu ginjal yang menjalani ESWL di RSUP Dr. Sardjito periode Januari-Desember 2023. Data karakteristik pasien, lokasi dan ukuran batu, densitas batu, serta hasil ESWL dianalisis menggunakan uji *chi-square* dan *Kruskal-Wallis*.

Hasil: Dari 110 pasien, tingkat keberhasilan ESWL secara keseluruhan adalah 68.18%. Lokasi batu di kaliks inferior memiliki tingkat keberhasilan terendah (35%, $p < 0.05$). Terdapat hubungan signifikan antara Frekuensi ESWL dengan densitas batu ($p < 0.01$). Tidak terdapat hubungan bermakna antara ESWL dan Indeks Massa Tubuh/IMT ($p = 0.069$).

Kesimpulan: ESWL efektif untuk penanganan batu ginjal, namun faktor lokasi batu, densitas batu, dan karakteristik pasien mempengaruhi tingkat keberhasilannya. Optimalisasi seleksi pasien dan teknik ESWL diperlukan untuk meningkatkan efektivitas terapi.

Kata kunci: ESWL, batu ginjal, lokasi batu, densitas batu, indeks massa tubuh