

# Studi prospektif perbandingan posisi prone dan supine dalam percutaneous nephrolithotomy (PCNL) di Rumah Sakit Adam Malik Medan = Prospective study : comparison of prone and supine position in percutaneous nephrolithotomy (PCNL) At Adam Malik Hospital Medan

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## Abstrak

### <b>ABSTRAK</b><br>

Penelitian prospektif ini bertujuan untuk membandingkan keluaran PCNL dengan posisi prone dibandingkan dengan posisi supine. Sebanyak 57 pasien yang menjalani PCNL dari 1 Januari 2017 hingga 31 Desember 2017 diikuti dalam penelitian. Kriteria inklusi meliputi pasien dengan batu ginjal > 20 mm dari foto KUB (Kidney-Ureter-Bladder) atau abdominal NCCT (Non Contrast Computed Tomography) yang bersedia operasi PCNL. Kriteria eksklusi berupa pasien berusia < 17 tahun, pasien menolak operasi, pasien sudah pernah menjalani PCNL pada sisi yang sama, pasien dengan gangguan pembekuan darah, kehamilan, dan pasien batu ginjal dengan kelainan ginjal kongenital. Dilakukan randomisasi pasien untuk menjalani PCNL dengan posisi prone atau supine. Sebanyak 29 pasien menjalani PCNL posisi prone dan 28 pasien menjalani PCNL posisi supine. Data karakteristik pasien, lokasi pungsi, jumlah pungsi, penggunaan nefrostomi paska PCNL, lama operasi, ada atau tidaknya batu sisa berukuran 5 mm, komplikasi total, demam paska operasi, terjadinya sepsis, perdarahan yang memerlukan transfusi, hematoma retroperitoneal, efusi pleura, cedera usus, dan selisih hemoglobin sebelum dan setelah operasi dibandingkan antara kedua kelompok. Tidak didapatkan perbedaan yang bermakna pada jumlah, jenis kelamin, usia, BMI, ukuran batu, hidronefrosis, komorbid pasien pada kedua kelompok. PCNL dengan posisi prone memiliki angka bebas batu 82.8% sedangkan pada posisi supine 92.9%. Perbandingan yang bermakna didapatkan pada perbedaan rerata lama operasi dimana lama operasi PCNL dengan posisi prone 150 menit sedangkan untuk posisi supine 130 menit ( $p=0.003$ ). Tidak didapatkan perbedaan yang signifikan antara keberhasilan pungsi, komplikasi total, demam paska operasi, sepsis, dan perdarahan yang membutuhkan transfusi. Tidak didapatkan pasien yang mengalami efusi pleura, cedera usus, atau kematian dalam penelitian ini. PCNL posisi supine memiliki efektifitas dan keamanan yang sama dengan PCNL dengan posisi prone. Angka bebas batu PCNL posisi supine lebih tinggi dibandingkan PCNL posisi prone. Lama operasi PCNL posisi supine secara signifikan lebih singkat dibandingkan PCNL posisi prone.

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### <b>ABSTRACT</b><br>

This prospective study aimed to compare the outcomes of PCNL between prone and supine position. A total of 57 patients treated with PCNL in the time period of January 1st, 2017 until December 31st, 2017 were included in the study. Inclusion criteria includes patients with kidney stones greater than 20 mm in size measured with KUB, imaging (Kidney-Ureter-Bladder) or abdominal NCCT (Non Contrast Computed Tomography), who were willing to be treated with PCNL. The exclusion criteria were patients younger than 17 years old, patients who refused surgical procedure, patients with history of PCNL on the same side, patients with bleeding disorders, pregnancy, and kidney stone in patients with congenital kidney disorders. Patients were randomized for prone or supine group of PCNL, in number of 29 and 28 patients respectively.

Data on patient characteristics, puncture location, number of puncture, nephrostomy after PCNL, duration of surgery, presence or absence of residual stones measuring 5 mm in size, total complications, postoperative fever, sepsis, bleeding requiring transfusion, retroperitoneal hematoma, pleural effusion, intestinal injury, and the difference between hemoglobin count before and after surgery were compared between two groups. There were no significant differences observed in terms of number, sex, age, BMI, stone size, hydronephrosis, and comorbidities in patients of both groups. Stone free rate in PCNL with prone position and supine position were 82.8% and 92.9% respectively. Significant differences were observed in mean duration of surgery, with prone position duration time of 150 minutes and supine position duration time of 130 minutes ( $p = 0.003$ ). There were no significant differences between successful puncture, total complications, postoperative fever, sepsis, and bleeding requiring transfusion. No patients with pleural effusion and intestinal injury were reported, and no death was reported in this study. PCNL with supine position showed similar effectivity and safety with PCNL prone position. Stone free rate was higher in PCNL with supine position and the duration was also significantly shorter in PCNL with supine position than prone position.