

## Faktor prediktor komplikasi perdarahan dan pola tranfusi darah pada prosedur percutaneous nephrolithotomy (PCNL) batu ginjal = Blood loss predictive factors and transfusion practice during percutaneous nephrolithotomy of kidney stones

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### Abstrak

#### **ABSTRAK**

Salah satu komplikasi tersering PCNL adalah perdarahan. Penelitian ini bertujuan mengidentifikasi faktor prediktor jumlah total perdarahan PCNL, dan mengevaluasi pola transfusi darah. PCNL dilakukan acak oleh dua konsultan endourologi dan dianalisa prospektif. Pasien dewasa dengan batu ginjal pielum > 20 mm, kaliks inferior >10 mm, atau staghorn dijadikan sampel. Pasien dengan koagulopati, pengobatan antikoagulan, atau dilakukan konversi operasi terbuka dieksklusi. Pemeriksaan darah lengkap dilakukan pada awal dan 12, 24, 36, 72 jam paska-operasi. Faktor-faktor seperti stone burden, jenis kelamin, luas permukaan tubuh, perubahan kadar hematokrit dan jumlah transfusi darah dianalisa regresi untuk mendapatkan prediktor total blood loss (TBL). Didapatkan rerata TBL 560,92±428,43 ml dari total 85 pasien. Stone burden merupakan faktor paling berpengaruh terhadap TBL (p=0.037). Kebutuhan transfusi darah diprediksi dengan menghitung TBL (ml) = -153,379 + 0,229 stone burden (mm<sup>2</sup>) + 0,203 baseline serum hematokrit (%). Sebanyak 87,1% pasien tidak menerima transfusi peri-operatif, 3,5% menerima transfusi intra-operatif, 7,1% menerima transfusi post-operatif, 2,3% menerima transfusi intra dan post-operatif; sehingga menghasilkan cross-matched transfusion ratio 7,72. Rerata tranfusi darah peri-operatif 356,00±145,88 ml. Stone burden menjadi faktor prediktif paling berpengaruh terhadap jumlah perdarahan. Jumlah darah yang ditransfusikan dan dilakukan cross-matched ditemukan tinggi. Formula yang kami usulkan dapat mengurangi kejadian transfusi yang tidak dibutuhkan.

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#### **ABSTRACT**

The most common complication of PCNL is bleeding. We aimed to identify predictive factors of PCNL blood loss and evaluate transfusion practice. A prospective study was randomly performed by two consultants of endo-urology. Adults with kidney stones in pelvic >20mm, inferior calyx >10mm or staghorn were included; those with coagulopathy, under anti-coagulant treatment or open conversion were excluded. Full blood count was taken at baseline and during 12, 24, 36, 72-hours post-operatively. Factors such as stone burden, sex, body surface area, hematocrit level shifting and amount of blood transfused were analyzed statistically using regression to identify predictive factors of total blood loss (TBL). Mean TBL was 560.92±428.43 ml from 85 patients enrolled. Our results revealed that TBL (ml): -153.379 + 0.229xstone burden (mm<sup>2</sup>) + 0.203xbaseline serum hematocrit (%); considerably predicted the need for blood transfusion. Amount of 87.1% patients did not receive perioperative transfusion, 3.5% received intra-operative transfusion, 7.1% post-operative, 2.3% both intra and post-operative, giving a cross-matched transfusion ratio 7.72. Mean peri-operative blood transfused was 356.00±145.88 ml. Stone burden was the most influential PCNL blood loss predictive factor. Amount of blood transfused and cross-matched was relatively high. An appropriate blood order using our equation would reduce any unnecessary

transfusions.;;;;