

## Transfusi Darah pada Laparoscopic Living Donor Nephrectomy: Pengalaman Satu Pusat dari 500 Kasus = Blood Transfusions in Laparoscopic Living Donor Nephrectomy: Single Center Experience from 500 Cases

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### Abstrak

**Pendahuluan dan tujuan:** Pembedahan laparoskopi telah diakui dapat mengurangi tingkat morbiditas sehingga meningkatkan keselamatan pasien. Saat tindakan LLDN, komplikasi yang paling sering adalah cedera pembuluh darah ginjal, yang sering membutuhkan transfusi darah. Selain perlunya transfusi darah, pendarahan berat yang disebabkan oleh cedera pembuluh ginjal membutuhkan konversi dan perbaikan terbuka. Dengan demikian, penelitian ini ingin mendeskripsikan dan menganalisis kebutuhan transfusi darah dalam operasi laparoscopic living donor nephrectomy di pusat kami.

**Bahan dan metode:** Studi kohort retrospektif ini dilakukan di Departemen Urologi di Rumah Sakit Nasional Cipto Mangunkusumo. Rekam medis semua pasien donor ginjal yang menjalani prosedur LLDN di institusi kami dari November 2011 hingga Oktober 2017 ditinjau. Data termasuk usia donor, kadar hemoglobin sebelum operasi, kadar hemoglobin pasca operasi, jumlah pendarahan intraoperatif, jumlah arteri renalis, jumlah vena renalis, sisi donor, konversi ke operasi terbuka, durasi operasi, dan BMI donor dikumpulkan dan dianalisis. Data-data ini selanjutnya dikorelasikan dengan tingkat transfusi.

**Hasil:** Terdapat 500 pasien yang menjalani tindakan *laparoscopic living donor nephrectomy* di institusi kami. Semua pasien menjalani prosedur LLDN dengan pendekatan transperitoneal. Perbedaan proporsi tingkat transfusi darah antara pasien pria 0,9% dibandingkan dengan 0,6% pada pasien wanita tidaklah signifikan ( $p=0,782$ ). Tidak ada perbedaan yang signifikan dalam proporsi tingkat transfusi darah dengan sisi ginjal ( $p=0,494$ ), jumlah arteri ( $p=0,362$ ), usia ( $p=0,978$ ), BMI ( $p=0,569$ ), dan kadar hemoglobin sebelum operasi ( $p=0,766$ ). Median perkiraan jumlah pendarahan pada pasien yang menerima transfusi darah intraoperatif secara signifikan lebih besar daripada pasien yang tidak menerima transfusi darah ( $p < 0,001$ ).

**Kesimpulan:** Berdasarkan penelitian ini, kami menyarankan bahwa di institusi kami, penggunaan produk darah pra operasi tidak selalu diperlukan. Kurva pembelajaran dan teknik ahli bedah memiliki peran penting dalam mencegah komplikasi intraoperatif dan kehilangan darah.

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**Introduction and objectives:** Laparoscopic surgery has been acknowledged to reduce the morbidity rate thus improving patient safety. During the LLDN, the most frequent complication is renal vessels injuries, which often requires a blood transfusion. Besides the need for a blood transfusion, major bleeding caused by renal vessels injuries require open conversion and repair. Thus, this study would like to describe and analyze the need for blood transfusion in laparoscopic living donor nephrectomy surgery in our center.

**Materials and methods:** We performed a retrospective cohort study in the Department of Urology at Cipto Mangunkusumo National Hospital. The records of all kidney transplantation donor patients

who underwent LLDN procedures carried out at our institution from November 2011 to October 2017 were reviewed. Data including donor age, preoperative hemoglobin level, postoperative hemoglobin level, intraoperative bleeding, number of artery(ies), number of vein(s), donor side, conversion to open surgery, surgery duration, and donor BMI were collected and analyzed. These data were further correlated with transfusion rate.

**Results:** There were 500 patients underwent laparoscopic living donor nephrectomy procedure at our institution. All of the patients had LLDN with a transperitoneal approach. The difference in blood transfusion rate proportion between male patients with 0.9% compared to 0.6% in female patients was not significant ( $p=0.782$ ). There are no significant difference in blood transfusion rate proportion regarding to renal side ( $p=0.494$ ), number of artery ( $p=0.362$ ), age ( $p=0.978$ ), BMI ( $p=0.569$ ), and preoperative hemoglobin ( $p=0.766$ ). Median estimated blood loss in patients who received intraoperative blood transfusion was significantly much greater than in patients who did not receive a blood transfusion ( $p<0.001$ ).

**Conclusion:** Based on this study, we suggest that in our institution, preoperative blood products are not necessarily needed. The surgeon's learning curve and technique play a significant role in preventing intraoperative complications and blood loss.