

# Usia dan Gizi Kurang sebagai Faktor Risiko Reaksi Penolakan Cangkok Akut Pascatransplantasi Hati Donor Hidup Anak di RSUPN Cipto Mangunkusumo = Age and Nutritional Status as Risk Factors for Acute Cellular Rejection in Pediatric Living Donor Liver Transplantation at RSUPN Cipto Mangunkusumo

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## Abstrak

Latar Belakang: Penolakan cangkok akut pascatransplantasi hati anak dapat berakibat cangkok tidak berfungsi. Angka kejadian yang mencapai 31% di Rumah Sakit Cipto Mangunkusumo (RSCM) membutuhkan evaluasi faktor risiko untuk mengurangi morbiditas dan mortalitas.

Metode: Rekam medis 44 resipien anak pascatransplantasi hati donor hidup dari tahun 2010-Januari 2020 dievaluasi, dan dianalisa menggunakan fisher test.

Hasil: Sebelas subjek (25%) mengalami penolakan cangkok akut pascatransplantasi dengan median waktu 12 hari (jarak waktu 6-70 hari) pascatransplantasi. Total 44 subjek, 29 (65,9%) berusia > 1 tahun dan 30 (68,1%) bergizi kurang. Kejadian penolakan cangkok akut pada kelompok usia 1 tahun, adalah 5 (33%) dan pada usia >1 tahun, 6 (20%). Penolakan cangkok akut terjadi pada 6 subjek (20%) dengan gizi kurang, dan 5 subjek (35,7%) dengan gizi baik. Hasil analisa menunjukkan tidak ada hubungan antara usia ( $p=0,468$ ; 95% CI 0,47-0,77; OR 1,917) dan status gizi ( $p=0,287$ ; 95% CI 0,11- 1,85; OR 0,450) terhadap reaksi penolakan cangkok akut pascatransplantasi hati donor hidup anak di RSCM. Hasil observasi tiga bulan pertama memperlihatkan rerata kadar tacrolimus darah 6-8 ng/mL pada hari 12-15, tidak mencapai target untuk mendapatkan efek immunosupresi yang adekuat.

Kesimpulan: Pada penelitian ini status gizi kurang dan usia resipien saat transplantasi hati tidak signifikan sebagai faktor risiko independen reaksi penolakan cangkok akut, tetapi dapat dipikirkan bahwa kedua faktor ini mempengaruhi imunitas resipien, yang selanjutnya berperan dalam reaksi penolakan cangkok akut. Penggunaan immunosupresan yang adekuat juga harus diperhatikan dalam menekan reaksi penolakan cangkok pascatransplantasi hati.

.....Background: Acute rejection post-liver transplant in children may result in graft failure. The incidence rate of up to 31% at Cipto Mangunkusumo Hospital (RSCM) needs further evaluation of risk factors to lower morbidity and mortality.

Methods: 44 medical records of post living donor liver transplant pediatric recipients between 2010 until January 2020 were evaluated and analyzed using Fisher's test.

Results: Eleven subjects (25%) were found to experience acute rejection post-transplant with a median time of 12 days (range 6-70 days) after surgery. Of the 44 recipients, 29 subjects (65,9%) were >1 year old and 30 subjects (68,1%) were undernourished. Acute rejection occurred in 5 subjects (33%) 1 year-old and in 6 subjects (20%) that were >1 year old. Acute rejection of the transplant occurred in 6 subjects (20%) that were undernourished and in 5 subjects (35,7%) with good nutritional status. Analysis of the data found no relationship between age ( $p=0,468$ ; 95% CI 0,47-0,77; OR 1,917) and nutritional status ( $p=0,287$ ; 95% CI 0,11-1,85; OR 0,450) to acute rejection in pediatric living donor liver transplant at RSCM. Observation in the first three months post-transplant reveal that mean levels of tacrolimus in the blood were 6-8 ng/mL on days

12-15, insufficient of reaching the target of obtaining an adequate immunosuppressive effect.

Conclusion: In this study, age and nutritional status of recipients during the time of transplant were found to be insignificant independent risk factors of liver transplant acute rejection. However, these two factors can be thought to effect recipients' immune status, which plays a role in acute rejection post-transplant. The use of adequate immunosuppressant needs to be carefully monitored in suppressing rejection reactions post-liver transplant.