

## Profil Fungsi Ginjal pada Neonatus Kurang Bulan dan Faktor yang Memengaruhinya = Kidney Profile in Preterm Neonates and its Risk Factors

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### Abstrak

Latar belakang: Komplikasi neurologis dan tumbuh-kembang sering diteliti pada neonatus cukup bulan (NKB), tetapi masalah pada ginjal masih jarang diperhatikan. Mayoritas NKB lahir ketika ginjal masih berkembang, sehingga lebih rentan mengalami gangguan fungsi ginjal. Profil fungsi ginjal dan faktor yang memengaruhinya penting untuk diketahui. Tujuan: Penelitian ini bertujuan untuk mengetahui profil fungsi ginjal, prevalens gangguan fungsi ginjal, dan faktor yang memengaruhi fungsi ginjal pada NKB. Metode: Penelitian ini merupakan studi deskriptif analitik dengan rancangan penelitian kohort retrospektif observasional di Rumah Sakit Cipto Mangunkusumo menggunakan data rekam medik dari Oktober 2022-Oktober 2023. Partisipan penelitian adalah seluruh NKB yang dirawat dan melakukan pemeriksaan kreatinin darah dengan kriteria eksklusi meninggal sebelum usia 48 jam. Faktor risiko yang diteliti adalah nutrisi maternal, diabetes gestasional, hipertensi pada kehamilan, anemia pada kehamilan, steroid antenatal, berat lahir, pertumbuhan janin terhambat, sepsis neonatorum, asfiksia neonatorum, anemia prematuritas, steroid pascanatal, dan gentamisin. Hasil: Kreatinin serum diperiksa pada 26,1% (192/737) NKB. Terdapat 169 subyek yang diinklusi. Median usia gestasi subyek adalah 31 (24–36) minggu dan berat lahir (BL) 1.335 (500–2.815) gram. Gangguan fungsi ginjal ditemukan pada 66,3% (112/169) subyek. Gangguan fungsi ginjal yang ditemukan berupa penurunan LFG 6(3,6%), hipertensi 91(53,8%), proteinuria 1(0,6%), dan campuran dari ketiganya 71(42,0%) subyek. Neonatus yang mengalami gangguan fungsi ginjal terbanyak pada usia gestasi 28–31 minggu (45,5%). Berdasar berat lahir terbanyak < 1000 g (81,6%), 1000–1499 (67,2%), 1500–2499 (59,6%). Variabel yang secara bersama-sama memengaruhi gangguan fungsi ginjal pada pasien neonatus kurang bulan adalah BL < 1.000 gram (OR 8,38; IK 95% 1,14–61,34; p=0,036), sepsis berat (OR 2,20; IK 95% 1,06–4,54; p=0,034) dan adanya anemia prematuritas (OR 2,86; IK 95% 1,15–7,12; p=0,024). Simpulan: Faktor risiko terjadinya gangguan fungsi ginjal pada NKB adalah BL < 1.000 gram, sepsis berat, dan anemia prematuritas.

.....Background: Neurodevelopmental complication is often studied in preterm neonates (PTNs), but nephrological problem is usually overlooked. The majority of PTNs are born when the kidneys are still developing. Therefore, PTN is more susceptible to impaired kidney function (IKF) and is important to know the risk factors. Objective: his study aims to determine the prevalence of IKF and identify risk factors in PTN. Methods: This research is an analytical descriptive study with an observational cohort retrospective study methods at Cipto Mangunkusumo Hospital using medical record data from October 2022-October 2023. Subjects studied were all treated PTN who had creatinine evaluated during treatment and criteria exclusion of death within 48 hours was applied. The risk factors studied were maternal nutrition, gestational diabetes, hypertension in pregnancy, anemia in pregnancy, antenatal steroids, birth weight, fetal growth restriction, neonatal sepsis, neonatal asphyxia, anemia of prematurity, postnatal steroids, and gentamycin use. Results: Serum creatinine was assessed in 26,1% (192/737) PTN. One-hundred-and-sixty-nine subjects were included. The median gestational age (GA) was 31 (24–36) weeks and birth weight (BW) 1,335

(500–2,815) grams. Impaired kidney function was found in 112/169 (66,33%) subjects. Abnormalities found were decreased in GFR 6(3.6%), hypertension 91(53.8%), proteinuria 1(0.6%), and mixture of the above 71(42.0%) subjects. Neonates with IKF mostly found with GA 28–31 weeks (45,5%). Based on birth weight, IKF was found in < 1000 g (81.6%), 1000–1499 (67.2%), 1500–2499 (59.6%). Variables that influence IKF in PTN are BW < 1,000 grams (OR 8.38; 95% CI 1.14 – 61.34; p=0.036), severe sepsis (OR 2.20; CI 95% 1.06–4.54; p=0.034), and the presence of anemia of prematurity (OR 2.86; 95% CI 1.15 – 7.12; p=0.024). Conclusion: Risk factors for IKF in PTN were BW < 1,000 grams, severe sepsis and anemia of prematurity.