ABSTRACT

Background: Preterm very low birth weight (VLBW) infants experienced intrauterine nutritional deficit that may prolonged during perinatal period. Perinatal comorbidities will impair growth parameters (weight velocity, time to reach fullfeed, and time to reach 120 kcal/kg/day for growth). While growth failure in early life can cause detrimental effect on growth and neurodevelopmental in childhood.
Objectives: To analyze predictor factors associated with early growth failure in preterm VLBW during hospitalization and to analyze differences in early growth parameters between SGA and AGA.
Methods: A retrospective cohort study was conducted at Dr Sardjito Hospital, Yogyakarta from 2011-2016. Subjects were preterm infants and 1000-1499 g in birthweight. All twin infants or who died during hospitalization or discharged against medical advice or had incomplete medical records were excluded. Gestational maturity was determined by Lubchenco table. Early growth parameters and perinatal comorbidities (neonatal sepsis, anemia, PDA, NEC, and respiratory distress) were collected from medical records. Fenton curve was used for analyzing growth failure (discharge weight less than p10). Bivariate and multivariate analysis were used to determine predictor factors of growth failure during hospitalization.
Results: During study period, there were 646 preterm VLBW infants. About 408 infants were excluded. Being SGA and respiratory distress were predictor factors of growth failure (AOR = 34,44; 95% CI 7,79-152,4 and AOR = 6,94; 95% CI 2,93-16,42, respectively). Weight velocity of SGA and AGA were 16,5(5,9) and 17,5(5,3) g/kg/day (P=0,25). Median of time to regain (11 vs 12 day), time to reach fullfeed (16 vs 16 day), and time to reach 120 kkal/kg/day (20 vs 21 day) were not significantly different between SGA and AGA.
Conclusions: SGA and respiratory distress are predictor factors of early growth failure in preterm VLBW infants during hospitalization. SGA grow slower than AGA infants.

Keyword: SGA-AGA, growth failure, VLBW, preterm, predictor factor.

INTISARI

Latar belakang: Bayi berat lahir sangat rendah (BBLSR) kurang bulan mengalami defisit nutrisi sejak dalam kandungan dan dapat berlanjut paskanatal. Berbagai komorbid perinatal berpotensiasi memengaruhi parameter pertumbuhan (laju pertumbuhan, waktu capaian nutrisi enteral penuh dan nutrisi untuk tumbuh 120 kkal/kg/hari). Gangguan pertumbuhan pada awal kehidupan meningkatkan risiko gangguan tumbuh kembang pada usia kanak-kanak.

Tujuan: menganalisis faktor prediktor gangguan pertumbuhan BBLSR kurang bulan selama rawat inap dan mengetahui perbedaan parameter pertumbuhan KMK dan SMK.

Metode: Penelitian kohort retrospektif, menggunakan data rekam medik divisi perinatologi RSUP Dr. Sardjito dari tahun 2011-2016. Subyek penelitian adalah bayi berat lahir 1000-1499 dan umur kehamilan < 37 minggu. Subyek gemelli, pulang sebelum diijinkan, meninggal selama perawatan, dan data rekam medik tidak lengkap dieksklusikan. Kecukupan berat lahir berdasarkan usia kehamilan dinilai dengan tabel Lubchenco. Data parameter pertumbuhan dan komorbid perinatal (sepsis neonatorum, anemia, PDA, NEC, distres respirasi) diambil dari rekam medik. Penilaian gangguan pertumbuhan (berat badan pulang < p10) menggunakan kurva Fenton. Analisis bivariat dilanjutkan multivariat digunakan untuk menentukan faktor prediktor terjadinya gangguan pertumbuhan di akhir rawat inap.

Hasil: Didapatkan 646 BBLSR kurang bulan dalam kurun waktu 6 tahun dengan 408 bayi dieksklusi. Insidensi gangguan pertumbuhan BBLSR kurang bulan selama rawat inap adalah 84,5%. Kondisi KMK dan distres respirasi merupakan prediktor terjadinya gangguan pertumbuhan (AOR = 34,44; IK 95% 7,79-152,4 dan AOR = 6,94; IK 95% 2,93-16,42). Rerata laju pertumbuhan KMK dan SMK adalah 16,5(5,9) dan 17,5(5,3) g/kg/hari (P=0,25). Median waktu kembali ke berat lahir (11 vs 12 hari), waktu mencapai *fullfeed* (16 vs 16 hari) dan waktu mencapai 120 kkal/kg/hari (20 vs 21 hari) tidak berbeda bermakna antara KMK dan SMK.

Kesimpulan: KMK dan distres respirasi adalah prediktor gangguan pertumbuhan BBLSR kurang bulan selama rawat inap. Laju pertumbuhan KMK lebih rendah daripada SMK.

Kata kunci: KMK-SMK, gangguan pertumbuhan, BBLSR, kurang bulan, faktor