Kadar human defensin dalam tinja dan pola mikrobiota saluran cerna pada neonatus kurang bulan yang mendapat asi, susu formula, dan kombinasi = Human defensin level in feces and gut mikrobiota pattern in preterm with breastmilk formula feeding and combination

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Abstrak

Latar belakang: Air susu ibu ASI sangat bermanfat bagi bayi baru lahir, dari aspek komponen nutrisi maupun proteksi. Respon imun innate dan adaptif pada NKB diketahui masih imatur, diantaranya pada saluran cerna adalah antimikrobial peptide termasuk di dalamnya adalah human defensin 2 hBD2 . Pemberian nutrisi pada bayi prematur masih menjadi problematika karena belum semua NKB bisa mendapatkan ASI saja, sementara ASI kaya akan hBD2.
Metode: Penelitian ini merupakan penelitian deskriptif analitik menggunakan rancangan studi cross sectional. Dilakukan di ruang neonatologi Rumah Sakit Umum Pusat Nasional Cipto Mangunkusumo Jakarta pada bulan November 2016 ndash; April 2017. Pemeriksaan laboratorium dilakukan di Laboratorium Prodia. Populasi target NKB dengan usia gestasi 28-34 minggu. Terbagi 4 kelompok ASI, predominan ASI, predominan susu formula dan susu formula saja. Dilakukan pada 44 neonatus kurang bulan. Menggunakan metode ELISA, pemeriksaan radiologis dan pengecekan kadar PCT,CRP dan IT rasio. Metode statistik dengan one way ANOVA.
Hasil: Kadar defensin pada masing-masing kelompok terdapat perbedaan yang signifikan dimana rerata kadar defensin terendah pada kelompok ASI sebesar 91,84 diikuti kelompok 2 221,52, kelompok 4 249,46 dan kadar tertinggi tercatat pada kelompok 3 sebesar 344,86 p=0,004 . Pada pemeriksaan Kadar procalcitonin ,CRP dan It rasio tidak terdapat beda yang signifikan. Klebsiella paling rendah populasinya pada kelompok ASI.
Kesimpulan: hBD 2 kadarnya ditemukan rendah pada kelompok ASI dan tinggi pada kelompok predominan susu formula dan susu formula saja. Hal ini menunjukkan tingginya proses inflamasi pada kelompok yang mendapat susu formula. Air Susu Ibu masih yang terbaik bagi saluran cerna dengan bukti rendahnya Klebsiela pada Kelompok ASI.
.....Background: Breast milk is highly beneficial for newborns, due to its nutritional aspects and protective properties. Innate and adaptive immune responses in preterm newborns are still immature, including the ones in the gastrointestinal system, namely antimicrobial peptide called human defensin 2 hBD2. Nutrition for preterm babies is still a problem because not all of them can get exclusive breast milk, while breast milk is rich in hBD2.
Method: This study is an analytic descriptive study with cross sectional design. This study was done in the neonatology room in National Central General Hospital of Cipto Mangunkusumo Jakarta, on November 2016 ndash April 2017. Laboratory examination was performed in Prodia Laboratory. The target population was preterm newborns with gestational age of 28 34 weeks, divided into 4 groups, namely the breast fed group, predominant breast fed group, predominant formula fed group, and exclusively formula fed group. This study was performed in 44 preterm newborns using ELISA method, radiological examinations, and measuring the level of PCT, CRP dan IT ratio. The statistical analysis method used for this study is one way

ANOVA.

Result: There were significant differences in defensin level among the groups, in which the mean defensin level was lowest in breast fed group 91,84 , followed by the second group 221,52 , the fourth group 249,46 , and the highest in the third group 344,86 p 0,004 . There were no significant differences among groups in IT ratio and procalcitonin and CRP levels. Breastmilk is the best protection for preterm gut which Klebsiella was lowest in breastmilk group.

Conclusion: The level of hBD2 was found to be low in breast fed group and high in predominant formula fed group and also in exclusively formula fed group. This showed the high inflammation process happening in the group fed with formula.