Perbandingan Kadar Asam Salisilat Natural dalam Serum dan Urin pada Preeklamsia Awitan Dini dan Awitan Lambat = Comparison of Natural Salicylic Acid Levels in Blood and Urine in Early-Onset and Late-Onset Preeclampsia

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Abstrak

Latar Belakang: Prevalensi preeklamsia dalam kehamilan di Indonesia sebesar 7-10%, Asam asetilsalisilat yang mengandung senyawa aktif asam salisilat diketahui dapat mencegah terjadinya preeklamsia awitan dini terutama bila diberikan sebelum usia kehamilan 16 minggu. Tubuh memiliki asam salisilat natural yang didapatkan dari konsumsi sayuran yang mengandung asam salisilat. Asam salisilat merupakan senyawa aktif yang berperan sebagai anti inflamasi. Penelitian ini bertujuan menilai apakah kejadian preeklamsia dipengaruhi oleh kadar asam salisilat natural serum dan urin.

Metode: Penelitian ini menggunakan disain case-control berpasangan. Subjek adalah pasien hamil dengan preeklamsia awitan dini (PEAD) dibandingkan dengan hamil normotensi 20-34 minggu terdiri atas 35 pasien/kelompok, preeklamsia awitan lambat (PEAL) dibandingkan dengan hamil normotensi 34-40 minggu terdiri atas 39 pasien/ kelompok. Pemeriksaan kadar asam salisilat (SA) dan asam salisilurat (SUA) dalam serum diperiksa dari sampel darah vena, kadar SA dan SUA urin diperiksa dari sampel urin sewaktu yang terkoreksi dengan kadar kreatinin urin, semuanya diperiksa menggunakan kromatografi. Seluruh subjek dilakukan wawancara FFQ (Food Frequent Questionnaire) untuk mengetahui asupan makanan selama hamil. Analisis statistik yangdigunakan adalah uji Mann Whitney .

Hasil: Median usia kehamilan pasien PEAD adalah 31 minggu, kelompok normal adalah 30 minggu. Kadar SUA serum pada PEAD berbeda bermakna dibandingkan hamil normal dengan median 1,43 (min-max 0,001-9,32) vs 0,21 (0,002-15,78) nilai p<0,001. Kadar albumin pada PEAD berbeda bermakna dengan hamil normal median 3 (2,1 – 3,8) vs 3,7 (3,4-4,3) p<0,001. Kadar Asupan protein berbeda bermakna (13% vs 14%,

p<0,001)Kadar serat pangan pada PEAD berbeda bermakna dibandingkan hamil normal (8 gram/hari vs 9,6 g/hari, p<0,001). Kadar SA dalam serum dan urin, SUA urin pada kelompok ini tidak berbeda bermakna.

Median usia kehamilan PEAL dan normotensi adalah 37 minggu. Kadar SA serum dan urin dan SUA serum tidak berbeda bermakna antara kedua kelompok. Kadar albumin pada PEAL berbeda bermakna dengan median (3 (2,4-3,6) vs 3,4 (2,9-4,1) p<0,001).

Simpulan : Tidak terdapat perbedaan bermakna kadar asam salisilat dan asam salisilurat pada serum dan urin pada kehamilan preeklamsia dan normotensi. Kelompok PEAD terdapat kadar SUA serum yang lebih tinggi dan berkorelasi dengan kadar albumin dan asupan protein yang rendah. Asupan serat pangan berhubungan dengan kejadian PEAD, tetapi tidak berhubungan dengan kadar asam salisilat dan asam salisilurat

.....Background: The prevalence of preeclampsia in pregnancy in Indonesia is 7-10%. Acetylsalicylate which contains the active compound salicylic acid is known to prevent early onset preeclampsia, especially if given before 16 weeks of gestation. The body has natural salicylic acid which is obtained from the consumption of vegetables that contain salicylic acid. Salicylic acid is an active compound that acts as an anti-inflammatory. This study aims to assess whether the incidence of preeclampsia is influenced by the

levels of natural salicylic acid in the blood and urine.

Methods: : A matched case-control was adopted in this study. Subjects were pregnant patients with early onset preeclampsia (EOP) compared to normotensive pregnancies of 20-34 weeks consisting of 35 patients/group, late onset preeclampsia (LOP) compared with normotensive pregnancies of 34-40 weeks consisting of 39 patients/group. Examination of salicylic acid (SA) and salicylic acid (SUA) levels in serum was examined from venous blood samples, urine SA and SUA levels were examined from urine samples while corrected by urine creatinine levels, all were examined using chromatography. . To measure food intake during pregnancy, all subject were interviewed using the FFQ (Food Frequent Questionnaire). The Mann Whitney test was utilized in the statistical analysis.

Objective: The goal of this study is to see if natural blood and urine levels of salicylic acid affect the risk of preeclampsia.

Result :EOP subject had a median gestational age of 31 weeks, while normal group 30 wga. Serum SUA levels in EOP were considerably different from normal pregnant women, with a median of 1.43 (min-max 0.001-9.32) versus 0.21 (0.002-15.78) p value <0.001, while albumin levels in EOP were significantly different from normal pregnant women, with a median of 3 (2.1-3.8) vs. 3.7 (3.4-4.3) p<0.001, and protein intake significantly lower than normal (13 vs 14%, p<0,001).. Dietary fiber in EOP was significantly

different compared to normal pregnancy (8 g/day vs 9.6 g/day, p<0.001) SA levels in serum and urin, as well as urine SUA, were not substantially different in this group.

LOP and normotensive gestational age were both 37 weeks. The levels of SA and SUA in the serum and urine were not substantially different between the two groups. With a median of 3 (2.4-3.6) vs. 3.4, albumin levels in PEAL were substantially different (2.9-4.1).

Conclusion: In preeclampsia and normotensive pregnancies, there was no significant difference in salicylic

acid and salicyluric acid levels in blood and urine. The serum SUA levels in the EOP group were greater and associated with low albumin levels and low protein intake. Fiber intake was linked to the development of EOP, but not to salicylic acid levels or salicyluric acid levels.