

Pengaruh pemberian 2 siklus rejimen kemoterapi yang mengandung cisplatin pada eritropoiesis dan fungsi ginjal pasien tumor padat ganas = The effect of 2 cycle cisplatin base regiment to erythropoiesis and renal function in solid tumor cancer patients

Andhika Rachman, author

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Abstrak

Latar Belakang: Cisplatin merupakan kemoterapi efektif dengan spektrum luas. Efek terapeutiknya bertambah bermakna pada peningkatan dosis. Namun aplikasi dosis tinggi (>50 mg/m²) dibatasi nefrotoksisitasnya yang berat.

Tujuan: Mempelajari efek cisplatin terhadap aktivitas eritropoiesis, kadar eritropoietin dan fungsi ginjal pasien tumor padat ganas.

Metode dan Cara : Studi pre & post sejak Nopember 2004 sampai Januari 2005 dilakukan pada 14 pasien kanker tumor solid (KNF, Osteosarkoma, Ca paru) yang mendapat rejimen kemoterapi mengandung cisplatin dosis 70-100 mg/m². Pengambilan sampel dilakukan pra, pasta kemoterapi 1 dan II, dengan rentang 21 hari. Analisis univariat dilakukan terhadap usia, Janis kelamin, Janis tumor dan stadium klini.k Dilakukan analisis bivariat pads komponen eritropoiesis, kadar EPO dan TKK hitung..

Hasil : Didapatkan tumor solid berupa karsinoma nasofaring (88,24%), osteosarkoma (5,88%) dan adenokarsinoma pare (5,88%). Di mana stadium III (70,6%) dan stadium IV (29,4%). Didapatkan penurunan nilai Hb bermakna pasca siklus 110,74% (p = 0, 029)_ Pasca siklus H, Hb turun 1% (p = 0,37). Evaluasi pasca 2 siklus, lib turun 7,7% (p 0, 035). Hasil yang sama didapatkan pada nilai Ht, pasca kemoterapi siklus I (p = 0,03) dan pasca 2 siklus (p = 0, 008). Sedangkan pasca siklus II tidak bermakna (p = 0,594). Jumlah eritrosit pasca siklus I turun 13% (p = 0,00) dan pasca siklus II turun 8,7% (p = 0,00). Jumlah eritrosit turun 20,8% pasca 2 siklus (p = 0,00). Pasca 2 siklus, indeks retikulosit turun 1,59% (p = 0,975). Kadar eritropoietin pasca siklus I turun 12,7% (p = 0,73), pasta siklus II turun 20% (p = 0,03). Pasca 2 siklus didapatkan penurunan eritropoietin 30% (p = 0,925). TKK hitung mengalami penurunan pasta siklus 112,65% (p = 0,052) dan II 0,4% (p = 0,157). Pasca 2 siklus TKK hitung turun sebesar 13% (p = 0,052). Terdapat korelasi lemah antara eritropoietin dan jumlah eritrosit pasca siklus H. Tidak didapatkan korelasi antara eritropoietin dengan Hb, indeks retikulosit dan TKK hitung.

Kesimpulan: Pemberian cisplatin dosis tinggi (70-100 mg/m²) menyebabkan penurunan eritropoiesis, TKK hitung. Penurunan kadar eritrbpoietin tidak berkorelasi gagal ginjal akut Penurunan jumlah eritrosit disebabkan pula oleh rendahnya nilai eritropoietin.

<hr>Background: Cisplatin (Cis diaminodichloro Platinum II) is known as an effective broad spectrum anti tumor. Even though, the nephrotoxicity is one of serious side effects. The accumulation of toxic effects against to tubules area, where erythropoietin is produced, causes acute renal failure and anemia.

Purpose: To study the effect of 2 cycles cisplatin against erythropoiesis, erythropoietin level and creatinine clearance at patients with solid tumor cancer.

Methods: Pre and post study was done to 14 solid tumor cancer patients that receive high dose cisplatin regiment (70-100 mg/m²). Hb, Ht, erythrocyte count, erythropoietin level and calculated creatinin clearance test were determined before each cycle. Age, sex, tumor type, clinical stages were evaluated Statistical analysis was done with student T and Wilcoxon Rank and Pearson correlation.

Results: Tumors were NPC 88.24%, Adeno Ca 5.88% and Osteosarcoma 5.88%. Clinical stage Ili 70.6% and IV 29.4%. There were decline level among groups after 1st cycle in Hb (10.74%, p=0.029), Ht (7.6%, p=0.03), erythrocyte count (13%, p=0.00), erythropoietin level (12.7%, p=4.73) and creatinin clearance (12.65%, p=0.1052). After 2nd cycle, there were decline in Hb (1%, p=0.37), Ht (1.46%, p=0.59), erythrocyte count (8.7%, p=0.00), erythropoietin level (20%, p=0.03) and creatinin clearance (0.4%, p=0.15). Reticulocyte index was not reduce after 1st and 2nd cycle. After 2 cycles assessment, there were decline level in Hb (7.7%, p=0.035), Ht (48.7%, p=0.008), erythrocyte count (20.8%, p=0.00), erythropoietin level (30%, p=0.92) and creatinin clearance (13%, p=0.022). There is a low correlation between erythropoietin level and erythrocyte count after 1st (r=-0.397, p=0.159) and 2nd cycle (r=0.46, p=0.109). Variable's correlation between erythropoietin level and Hb, reticulocyte index, erythrocyte count did not reach statistical significance.

Conclusion: High dose cisplatin (70-100 mg/m²) cause decrease in eritropoiesis process and creatinin clearance. Decreasing erythropoietin level is not affected by acute renal failure. Low erythrocyte count is also caused by low level of erythropoietin.