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Peran Kurkumin terhadap ekspresi Endothelin-1 (ET-1) di ginjal pada model tikus kanker ovarium yang di induksi 7,12 Dimethylbenz[a]anthracene (DMBA) yang diberikan terapi Cisplatin = Role of Curcumin on Endothelin-1 (ET-1) expression in the kidney in a rat model of 7,12-Dimethylbenz [a] Anthracene-Induced Ovarian Cancer (DMBA) given Cisplatin therapy

Umar, author

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Abstrak

Latar belakang: Cisplatin diketahui sebagai agen kemoterapi yang paling sering digunakan dalam terapi keganasan hematologi dan tumor padat. Namun, efek samping cisplatin nefrotoksisitas menjadi masalah utama, sebab pemberian cisplatin sesuai dengan dosis terapeutik saja sudah menimbulkan kerusakan ginjal.
Tujuan penelitian: Membuktikan efek kurkumin yang bersifat renoprotektif terhadap kerusakan ginjal yang diinduksi cisplatin melalui penurunan ekspresi endothelin-1 (ET-1). Endothelin-1 merupakan peptida yang berkaitan dengan fungsi ginjal, karena memiliki peran sebagai vasokonstriktor poten dan sebagai hemodinamik di organ ginjal.
Metode: Sampel yang digunakan dalam penelitian ini berupa organ tersimpan dari penelitian Ni Made Dwi Sandhiutami, S.Si, M.Kes, Apt. Sampel dibagi dalam 4 kelompok perlakuan, yaitu kelompok tikus normal (N), kanker ovarium tanpa perlakuan (Ca), kanker ovarium perlakuan cisplatin (Cis), dan kanker ovarium perlakuan cisplatin+curcumin (Cur). Induksi kanker ovarium dengan cara injeksi 7,12-Dimethylbenz[a]anthracene (DMBA) melalui benang silk dan dirawat selama 20 minggu membentuk adanya tumor pada ovarium.
Hasil: Hasil yang diperoleh memperlihatkan kelompok Ca mengalami peningkatan ET-1 sebesar 2,8555±0,69981, kelompok Cis terjadi peningkatan ET-1 sebesar 6,0965±2,1558, namun pada kelompok Cis+Cur terjadi penurunan ekspresi ET-1 sebesar 2,1616±0,71623. Meskipun, data pada pemeriksaan ekspresi ET-1 tidak berbeda bermakna secara statistik, namun pemberian kurkumin dapat dikatakan bermakna secara kondisi klinis karena menurunkan ekspresi ET-1 sebesar 64,5%. Pada pemeriksaan serum kreatinin, hanya kelompok tikus normal (N) dengan kelompok tikus kanker ovarium dengan perlakuan cisplatin (Cis) yang berbeda bermakna dan signifikan.
Kesimpulan: Cisplatin bersifat nefrotoksisitas meskipun dalam dosis terapi, serta pemberian kurkumin bermanfaat sebab dapat bersifat renoprotektif bagi kerusakan ginjal yang diinduksi cisplatin.
.....Introduction: Cisplatin is known as a chemotherapy agent that is most often used in the therapy of hematologic malignancies and solid tumors. However, the side effects of cisplatin nephrotoxicity are the main problem, because giving cisplatin in accordance with the therapeutic dose alone has caused kidney damage.
Purpose of the study: To prove the effect of curcumin which is renoprotective against cisplatin-induced renal damage through decreased expression of endothelin-1 (ET-1). Endothelin-1 is a peptide related to kidney function, because it has a role as a potent vasoconstrictor and as a hemodynamic agent in the kidney.
Methods: The samples used in this study were stored organs from research by Ni Made Dwi Sandhiutami, S.Si, M.Kes, Apt. Samples were divided into 4 treatment groups, namely normal mice (N), ovarian cancer

without treatment (Ca), ovarian cancer treated with cisplatin (Cis), and ovarian cancer treated with cisplatin + curcumin (Cur). Ovarian cancer induction by injection of 7,12-Dimethylbenz [a] anthracene (DMBA) through silk thread and treated for 20 weeks to form a tumor in the ovary.
Results: The results showed that the Ca group experienced an increase in ET-1 by 2.8555 ± 0.69981, the Cis group had an increase in ET-1 by 6.0965 ± 2.1558, but in the Cis + Cur group there was a decrease in ET-1 expression. equal to 2.1616 ± 0.71623. Although, the data on the examination of ET-1 expression were not statistically significant, but curcumin administration can be said to be clinically significant because it reduces the expression of ET-1 by 64.5%. In the serum creatinine examination, only the normal (N) group of mice with ovarian cancer mice treated with cisplatin (Cis) was significantly and significantly different.
Conclusion: Cisplatin is nephrotoxicity even in therapeutic doses, and curcumin administration is beneficial because it can be renoprotective for cisplatin-induced renal damage