Risk factors of anemia in head and neck cancer patients undergoing chemotherapy with high-dose cisplatin

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Abstrak

Anemia merupakan salah satu efek samping yang paling sering dialami pasien kanker yang diterapi dengan cisplatin dosis tinggi. Penelitian ini bertujuan untuk mengamati perkembangan anemia dan menentukan faktor-faktor yang berpengaruh terhadap anemia pada pasien yang diterapi cisplatin. Dilakukan pengumpulan data pada pasien kanker kepala dan leher yang menjalani kemoterapi berbasis cisplatin antara Desember 2002 hingga Desember 2005. Insidensi dan faktor risiko anemia dianalisis dengan mencakup faktor usia, jenis kelamin, kadar Hb awal, klirens kreatinin awal, dan metastasis jauh. Stratifikasi menurut usia dan jenis kelamin dilakukan terhadap kadar Hb awal dan CrCl awal. Analisis multivariat digunakan untuk mengidentifikasi prediktor independen anemia. Dari 86 pasien, 26 (30,2%) mengalami anemia, ditandai kadar hemoglobin < 11 g/dL. Kadar hemoglobin turun secara signifikan setelah siklus pertama, dan terus menurun. Usia > 55 tahun (RR = 2.2, 95% CI, 1.2-4.0), jenis kelamin perempuan (RR = 2.0, 95% CI, 1.2-3.8), kadar Hb awal ≤ 13 g/dL (RR = 4.2, 95% CI, 1.9-9.4) dan CrCl awal < 50 mL/menit (RR = 2.9, 95% CI, 1.7-5.1) berkorelasi dengan insidensi anemia (P < 0.05). Pada analisis multivariat, kadar hemoglobin awal dan klirens kreatinin awal merupakan faktor risiko independen anemia. Akan tetapi, terdapat efek perancu pada klirens kreatinin awal pada stratifikasi menurut usia (aRR = 2.2, 95% CI, 1.1-4.7). Kadar hemoglobin awal merupakan prediktor terkuat dari anemia. Kadar hemoglobin awal ≤ 13 g/dL ke bawah dan klirens kreatinin awal < 50 g/dL merupakan prediktor independen anemia akibat cisplatin, sehingga keduanya bernilai penting terhadap upaya prevensi anemia.
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Abstract
Cisplatin is well-known for its effectiveness against cancer, as well as its toxicity to human tissues. Of several documented side effects, anemia was reported to have significant association with decreased quality of life. This study was conducted to investigate development of cisplatin-induced anemia, and to identify independent factors contributing to anemia. Clinical data from head and neck cancer patients treated with high-dose cisplatin between December 2002 and December 2005 were obtained in this study. Incidence and risk factors of anemia were assessed in a model including age, sex, baseline hemoglobin level, baseline creatinine clearance, and occurrence of distant metastases. Multivariate logistic regression was used to define independent predictors of anemia. Among 86 eligible patients, 26 (30.2%) developed anemia, defined as Hb level lower than 11 g/dL. Age > 55 years old (RR = 2.2, 95% CI, 1.2-4.0), female sex (RR = 2.0, 95% CI, 1.2-3.8), baseline Hb ≤ 13 g/dL (RR = 4.2, 95% CI, 1.9-9.4) and baseline CrCl < 50 mL/min (RR = 2.9, 95% CI, 1.7-5.1) were significantly correlated with incidence of anemia (P < 0.05). In multivariate analysis, baseline Hb and baseline CrCl were identified as independent risk factors for anemia. However, considerable confounding was observed in baseline CrCl after stratified by age (aRR = 2.2, 95% CI, 1.1-4.7). Thus, baseline Hb level was the strongest predictor of anemia. The findings suggested that baseline Hb and CrCl were useful to recognize cisplatin-treated patients at risk for anemia who might benefits from

preventive measures.