

Studi korelasi albumin praradiasi dan hipoksia terhadap respon tumor karsinoma nasofaring stadium lanjut = Study correlation of albumin preirradiation and hypoxia to radiation response in locally advanced nasopharyngeal carcinoma

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Abstrak

Pendahuluan: Malnutrisi dan hipoksia merupakan faktor yang mempengaruhi kegagalan terapi pada KNF stadium lokal lanjut. Kadar albumin merupakan salah satu pemeriksaan status nutrisi. Hipoksia menyebabkan radioresistensi terhadap radiasi. Tujuan dari penelitian ini adalah mengetahui korelasi antara kadar albumin praradiasi, hipoksia terhadap respon radiasi.

Metode penelitian: Penelitian ini merupakan studi kohort retrospektif menggunakan data sekunder terhadap 40 pasien kanker nasofaring stadium lokal lanjut yang memenuhi kriteria inklusi di Departemen Radioterapi dan Departemen Patologi Anatomi RSUP Dr Cipto Mangunkusumo dari Desember 2012 sampai Agustus 2013. Dilakukan pencatatan kadar albumin praradiasi, berat badan serta CT scan sebelum dan sesudah radiasi. Kemudian dilakukan analisa HIF1 dengan pulasan imunohistokimia. Sel yang positif hipoksia dihitung per 10 lapang pandang besar. Setelah itu, dilakukan penilaian respon radiasi berdasarkan kriteria Recist.

Hasil: Rerata kadar albumin praradiasi sebesar 3,9 +/- 0,5 g/dL, dan median persentase hipoksia sel yaitu 24,7(1-100)%. Tidak terdapat hubungan yang bermakna antara kadar albumin praradiasi terhadap respon radiasi ($p > 0,05$). Terdapat hubungan yang bermakna antara hipoksia terhadap respon radiasi ($p < 0,05$). Korelasi antara kadar albumin praradiasi dan hipoksia menunjukkan korelasi yang lemah dan tidak bermakna ($r = -0,24$, $p = 0,324$).

Kesimpulan: Hasil penelitian ini memperlihatkan bahwa albumin praradiasi tidak berhubungan dengan respon radiasi pada KNF stadium lokal lanjut. Terbukti bahwa hipoksia meningkatkan radioresistensi dan menurunkan respon radiasi. Tidak terdapat korelasi antara albumin praradiasi dan hipoksia.

.....**Introduction:** Malnutrition and hypoxia had been shown to cause irradiation failure. Albumin is one of the nutritional status examination. Hypoxia caused radioresistance to irradiation. The purpose of this study was to evaluate the correlation of albumin, hypoxia towards radiation response in locally advanced nasopharyngeal carcinoma.

Methods: This is a retrospective cohort study using secondary data from Departement of Radiotherapy and Departement of Pathology Cipto Mangunkusumo hospital of 40 patients locally advanced nasopharyngeal cancer who meet the inclusion criteria from December 2012 to August 2013. Albumin preirradiation, body weight and CT scan before and after radiation were recorded. We examined the expression of HIF1 by immunohistochemistry staining. Hypoxia cell was assessed by cell counting. Radiation response was determined by Recist criteria.

Results: The mean of serum albumin is 3.9 +/- 0.5 g /dL, and the median percentage of hypoxia was 24,7(1-100)%. There was no statistically significant relationship between albumin and radiation response ($p > 0,05$). There was a statistically significant relationship between hypoxia and radiation response ($p < 0,05$). There were no correlation between albumin and hypoxia ($r = -0,24$, $p = 0,324$).

Conclusion: This study showed that there was no correlation between albumin preirradiation and response in locally advanced nasopharyngeal cancer. It was proven that hypoxia increased radioresistance in locally advanced nasopharyngeal cancer. There was no correlation between albumin preirradiation and hypoxia.