

ABSTRACT

Background: Diffuse large B-cell lymphoma (DLBCL) is the most common subtype of Non-Hodgkin Lymphoma (NHL) accounting for about 30%-40% of cases globally. One of the etiologies of lymphoma is chronic infection related to lymphoma pathogenesis, which one of is hepatitis C virus (HCV). In determining the treatment and prognosis of NHL, a recent study showed that CD30 immunohistochemical staining plays an important role. Literature stated that high levels of CD30 are found in patients with HCV infection. This study aimed to determine the prevalence of CD30 and HCV expression and its correlation with clinicopathological characteristics of Indonesian DLBCL patients.

Methods: A total of 86 FFPE of DLBCL cases were collected over the course of two years from the Anatomical Pathology Department at Sardjito Hospital in the Special Region of Yogyakarta, Indonesia. Immunohistochemistry was performed to detect the two markers (CD30 and HCV). Chi-square tests were used to investigate the correlations between CD30 and HCV expression and clinicopathological features in DLBCL patients.

Results: The positivity rate of CD30 expression in 86 DLBCL samples was 25.6% (22/86) when using a 0% cut-off, and 7.0% (6/86) while using a 20% cutoff. The positivity rate of HCV expression in 86 DLBCL samples was 34.9% (30/86). Positive CD30 expression, HCV expression and clinicopathological features (age, sex, Ann Arbor stage, extranodal involvement, LDH, ECOG status and morphological variations) did not have statistically significant relationships ($p > 0.05$).

Conclusion: The prevalence of DLBCL with positive CD30 expression $> 0\%$ was 25.6%, positive CD30 expression $> 20\%$ was 7.0% and the prevalence of DLBCL with positive HCV NS3 was 34.9%. There was no statistically significant correlation between CD30 immunoreactivity and HCV NS3 expression with clinicopathological features.

Keywords: Diffuse large B-cell lymphoma, DLBCL, CD30, HCV, clinicopathological characteristics

ABSTRAK

Latar belakang: *Diffuse large B-cell lymphoma* (DLBCL) adalah subtype *Non-Hodgkin Lymphoma* (NHL) terbanyak dengan jumlah secara umum meliputi 30-40% kasus. Dari berbagai macam etiologi limfoma di antaranya adalah infeksi kronis yang berperan dalam patogenesis limfoma, salah satunya *hepatitis C virus* (HCV). Dalam menentukan tatalaksana dan prognosis NHL, penelitian terbaru menyatakan bahwa pulasan imunohistokimia CD30 memegang peranan yang penting. Literatur menyatakan bahwa CD30 yang tinggi ditemukan pada pasien dengan infeksi HCV. Penelitian ini bertujuan untuk mengetahui prevalensi ekspresi HCV dan CD30 serta korelasinya dengan karakteristik klinikopatologi pada pasien DLBCL di Indonesia.

Metode: Sebanyak 86 *Formalin Fixed Paraffin Embedded* (FFPE) telah diperoleh dari kasus DLBCL selama kurun waktu dua tahun dari Departemen Patologi Anatomi Rumah Sakit Sardjito di Daerah Istimewa Yogyakarta, Indonesia. Pemeriksaan imunohistokimia dilakukan untuk mendeteksi dua marker yaitu CD30 dan HCV. Uji Chi-square digunakan untuk menganalisa korelasi antara ekspresi CD30 dan HCV serta gambaran klinikopatologi pada pasien DLBCL.

Hasil: Dari 86 sampel kasus DLBCL didapatkan ekspresi positif CD30 sebanyak 25,6% (22/86) menggunakan cut-off 0% dan 7,0% (6/86) menggunakan cut-off 20%, sedangkan ekspresi positif HCV sebanyak 34,9% (30/86). Ekspresi positif CD30 dan HCV terhadap klinikopatologi meliputi umur, jenis kelamin, stadium Ann Arbor, keterlibatan ektranodal, status performa ECOG, kadar LDH, dan varian morfologi tidak bermakna secara statistik ($p>0,05$).

Kesimpulan: Prevalensi DLBCL dengan ekspresi positif CD30 dengan cut-off $>0\%$ sebanyak 25,6% dan cut-off $>20\%$ sebanyak 7,0%, serta ekspresi positif HCV NS3 sebanyak 34,9%. Ekspresi HCV NS3 dan CD30 positif pada kasus DLBCL tidak berhubungan signifikan terhadap karakteristik klinikopatologi.

Kata kunci: *Diffuse large B-cell lymphoma*, DLBCL, CD30, HCV, karakteristik klinikopatologi