

**Title:** Expression and prognostic significance of CD163, CD31 and Cox2 in classic Hodgkin lymphoma

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Tumor microenvironment is an emerging player in many solid tumors. Hodgkin lymphoma (HL) characterized by paucity of tumor cells and extensive collection of non malignant cells which contribute to tumor microenvironment together with other interacting molecules and blood vessels. CD163 has been recognized as a valuable specific macrophage marker. Cyclo-oxygenase 2 (Cox2) plays a role in tumor progression and carcinogenesis and expressed in many malignant and non malignant cells. The aim of this study is to examine the expression of CD163, CD31 and Cox2 in classic Hodgkin lymphoma. Expression of CD163, CD31 and Cox2 were examined in patients with HL by immunohistochemistry. Eighty three patients were included in this study, 40 patients were males (48.19%) and 43 (51.81%) females. High CD163 was found in 59 patients (71.08 %) and low expression in 24 (28.91%). Cox2 was positive in 52 patients (62.65%) and negative in 31 of cases (37.34%).

There were significant correlations between expression of CD163 and Cox2 ( $p=0.01$ ), Cox2 and CD31 ( $p=0.017$ ) and between CD31 and CD163 ( $p=0.042$ ). Significant correlations were detected between CD163, Cox2, and tumor stage ( $p=0.001$ , and  $0.01$ ) respectively, but not with CD31 ( $p=0.5$ ). CD31 showed significant correlation with histological subtype ( $p=0.04$ ). Regarding survival analysis, a significant relationship was found between Cox-2 expression with relapse rate and disease free survival (DFS) ( $p= 0.027$ ,  $0.0379$ ) respectively. Higher CD163 expression was found in relapsed cases ( $p=0.08$ ). In conclusion, expression of CD163 and Cox-2 might be helpful to predict relapse in patients with Hodgkin lymphoma.

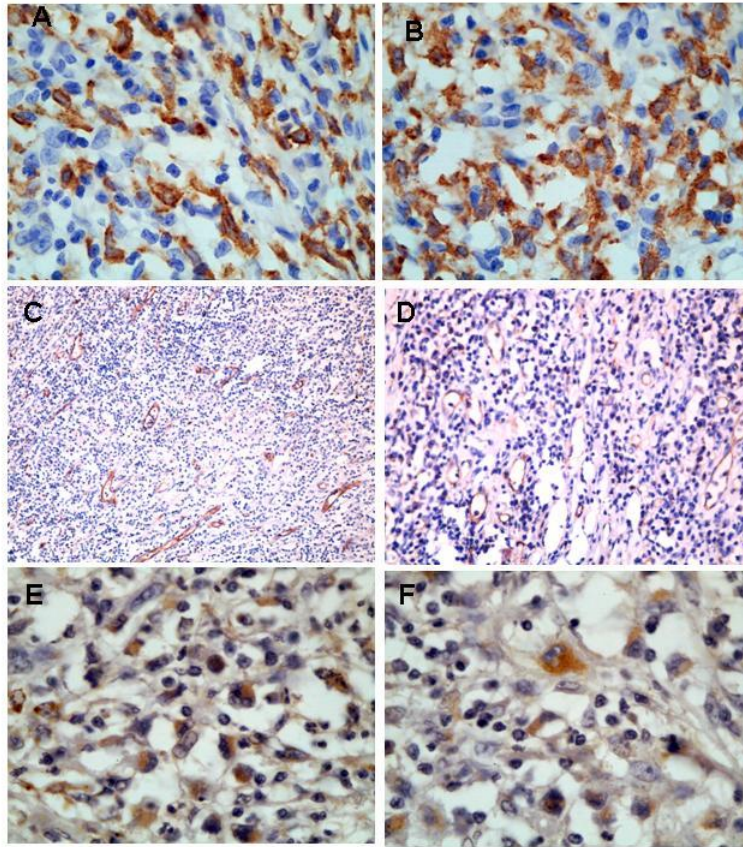


Figure (1) Expression of CD163 (A&B), CD31 (C&D), and Cox2 (E&F) in classic Hodgkin lymphoma.