Секция «Тезисы на английском языке»

Anti-CD antibody microarray - a new method for the detection of tumor cells in hairy cell leukemia

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The main clinical findings of hairy cell leukemia (HCL) are leukopenia, lymphocytosis and splenomegaly. Diagnostics are most often carried out by two of the most important features: a characteristic immunophenotype of the tumor, determined by flow cytometry, and the presence neoplastic B-lymphocytes with "hairy" morphology in the smear of blood or bone marrow. However, the detection of tumor cells in a blood smear is usually very difficult due to severe leukopenia. In addition, "hairy cells" can also be found in a number of other diseases, such as splenic marginal zone lymphoma (SMZL), hairy cell leukemia - variant (HCL-v), splenic diffuse red pulp lymphoma. The differential diagnosis of HCL in case of aberrant immunophenotypes or atypical morphologies may represent a significant challenge. This problem can be solved by using a microarray of anti-cluster-of-differentiation (anti-CD) antibodies, it combines the analysis of immunophenotype and morphology of lymphocytes [1]. Due to the high density of cell binding anti-CD antibody microarray can detect even rare "hairy cells".

In this work we formulated criteria which provides an opportunity to reliably distinguish HCL from the HCL-v and SMZL using microarrays according to morphological features of “hairy cells”, their binding density with antibodies to B-cell markers CD19, CD20, CD22, markers CD11c, CD103, CD123, and of CD25 and their clonality.

Источники и литература

1) Khvastunova A.N., Kuznetsova S.A., Al-Radi L.S. et al. Anti-CD antibody microarray for human leukocyte morphology examination allows analyzing rare cell populations and suggesting preliminary diagnosis in leukemia // Scientific Reports. 2015. №5. 12573.