

Abstract

The doctor thesis is composed of two major studies, both of them focused on the mantle cell lymphoma (MCL).

The first part deals with the verification of the prognostic influence of Mantle Cell Lymphoma International Prognostic Index (MIPI) and of the proliferative activity in 235 patients with MCL diagnosed in 1996–2008 in the Czech Republic. This population study was performed in the collaboration with the Czech Lymphoma Study Group. The clinical data of patients were completed in April 2012. The diagnosis of MCL was confirmed by our central histopathologic examination of pretherapeutic histological samples. The median overall survival (OS) was 47 months, median progression free survival (PFS) was 22 months. We demonstrated the influence of proliferative activity, MIPI and of the therapy type (intensive/non-intensive) on OS and PFS in univariate and multivariate analysis. Using univariate analysis we showed the prognostic influence of aggressive/other cytomorphological variants of MCL, nodal/extranodal localization of primary sample and also of the variants of MIPI – s-MIPI, MIPI_b and a completely new variant of MIPI – combined MIPI. The prognostic influence of growth pattern and of the results of immunohistochemical reaction with CD23, CD5 and cyclin D1 antibodies were not confirmed.

The other part of the thesis is focused on the prognostic influence of the microvessel density (MVD) in MCL. This is the first study of the prognostic influence of MVD in MCL. We studied MVD using systematic uniform random sampling and unbiased counting frames in immunohistochemical reactions with anti-CD34 antibody in extramedullary MCL samples of 177 patients. The number of microvessels was recounted to 1 mm². High MVD is associated with worse OS in patients treated by conventional (non-intensive) therapy ($P = 0.04$), but not in the intensive treatment group and in the whole series. Higher MVD was associated with bone marrow infiltration at the time of diagnosis ($P = 0.001$). MVD correlated positively with MIPI scores but not with the proliferation, morphological variant, growth pattern, or localization. MVD is not a good prognostic marker in MCL in contrast to other lymphomas. Multivariate analysis showed MIPI and proliferative activity as the most suitable prognostic markers of MCL.