

ANAEMIA ÎN NEOPLASTIC HEMATOLOGICAL DISEASES

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The thesis consists of two parts: a general part and a special part. The **general part** contains data from the medical literature regarding the anaemic syndrome in patients with malignant haemopathies. In this part are presented the features and incidence of anaemia with a focus on clinical and paraclinical aspects and pathogenetical factors involved in anaemia development. Anaemic syndrome is presented in the main haematological neoplastic diseases: acute and chronic leukaemia, malignant lymphoma, monoclonal gamapathia and mielodysplastic syndrome. Consistent information regarding the influence of anaemic syndrome on evolution and survival of patients suffering of these diseases are hereby presented. The **special part** contains the personal research starting with description of the group of patients, followed by working method, statistical data processing and the correlation of the different clinical and biological parameters with the therapy response, evolution and survival of patients with haematological neoplasias.

Introduction: Anaemia is detected at diagnosis in 50-60% of the patients with malignant haemopathies, being increased by the therapy (mainly by the cytostatic chemotherapy). The anaemic syndrome may be included among the anaemias in chronic diseases, mediated through inflammatory cytokines.

Purpose of the study: is to evaluate the anaemic syndrome in the main malignant haemopathies and the study was developed in three important chapters outlining the research activity: the incidence and character of anaemia, the impact of anaemic syndrome on the therapeutic response, and the value of anaemia as a prognostic factor, mainly on the evolution of the disease and survival of these patients.

The data collection: The retrospective study considered all patients with malignant haemopathies hospitalized at the Haematology Section of the Medical Clinic no. 1 of the County Emergency Clinic Hospital of Târgu-Mureş, in the period 1989 – 2010.

A number of 506 patients were selected in this study, aged over 18 years: 36 patients with Acute Lymphoblastic Leukemia (LAL), 61 patients with Acute Myeloblastic Leukemia (LAM), 70 patients with Chronic Lymphocytic Leukemia (LLC), 38 patients with Chronic Myeloid Leukemia (LMC), 168 patients with Non-Hodgkin Lymphoma (LNH), 43 patients with Hodgkin Lymphoma (LH), 62 patients with Multiple Myeloma (MM) and 28 patients with Myelodysplastic Syndrome (SMD). The anemia syndrome was analysed related to different clinical and biological parameters.

Statistic analysis of the data used the Chi-squared test, Student test and Fischer test. A value of "P" less than 0.05 was considered statistically significant. The analysis of the survival was done through the actuarial survival curve and by Kaplan-Meier method.

Results: The analysis of the incidence and character of anaemia in malignant haemopathies has proven that the anemic syndrome was present at the time of diagnosis in 46,64% of cases (236 patients), mainly in groups of elderly patients, and was statistical significant more frequent in men (57.41%) than in women (48.14%) ($p= 0.0405$). Anaemia is more frequent in LAM (83,60%) vs LAL (61.11%) ($p < 0.05$) in all cases of SMD; in advanced stages (C) of LLC (20%) and in MM; in 26.11% of patients with aggressive LNH and 44.11% of the patients with indolent LNH; in 31% of patients with LH and in 29% of patients with LMC. Anaemia commonly has a normochromic – normocytic character and it is more frequent in patients with increased tumoral mass, in advanced stages of the disease and in patients with a high cellular malignity level (LA, LNH). The administered cytostatic treatment increases the incidence of the anaemic syndrome.

The rate of therapeutic response (especially complete remission) is lower in the presence of the anaemic syndrome compared with its absence: LAM 45.09% vs 60%, LAL 63.63% vs 85.71%; LLC 35.71% vs 55.35%, MM 39.02% vs 80.95% ($p = 0.0027$), LNH aggressive 45.71% vs 57.57%, LNH indolent 26.66% vs 36.84%, LH 52.63% vs 70.83%. The presence of the anaemic syndrome is positively correlated with the incidence of complications (mainly infectious and haemorrhagic) especially in LA and in LNH. The early disease recurrences are more frequent in patients with anaemia at the moment of the diagnosis. In LMC the blastic transformation is more frequent in anaemic patients. The survival of patients is determined by the presence of the anaemic syndrome, but there is no meaningful difference from a statistical point of view in terms of the survival period as compared with non-anaemic patients.

Conclusions: The anaemia related to malignant haemopathies can be described both from nosological and etiopathogenetical point of view as anaemia of chronic diseases. It is an anaemia caused in the context of an immune mechanism and is mediated through inflammatory cytokines. The anaemia in haematological neoplasias is a prognostic value factor - together with other clinical and biological parameters, the anaemia influences the disease evolution, the treatment response, the incidence of complications and survival of the patients. The improvement of the anaemic syndrome makes a better quality of life for the patients with malignant haemopathies.

Key words: malignant haemopathies, anaemia, survival, therapeutic response, prognostic factors.