

Review article

Developments in diagnostics and treatment of children with Hodgkin's Lymphoma

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The first description of Hodgkin's Lymphoma (HL) can be found in the works of Malpighi dating from 1666. Clinical symptoms were first described by Hodgkin in 1832. In 1865 Wilks introduced "Hodgkin's disease" as the official term. Initial histopathological descriptions were published in 1872 and 1878 by Langhans and Greenfield. Sternberg and Reed in 1898 and 1902, respectively, reported the presence of characteristic Reed-Sternberg cells in the tumor. In 1994 Küppers et al. proved that HL represents clonal proliferation of B-cells derived from the germinal centers. This formed a basis for the WHO classification of 1997 that modified the four histopathological subtypes introduced in the Lukes classification in 1966 and replaced the term "Hodgkin's disease" by HL. In 1971 the Ann Arbor stratification criteria for four clinical HL stages were established and subsequently modified during the Cotswold conference in 1989.

The first chemotherapy attempt with Fowler's fluid was undertaken by Osler in 1892. In 1943 Goodman and Gilman administered chlormetine. In 1960 DeVita et al. introduced the MOPP combination, which resulted in a complete remission rate of 75% in 1970. In 1973 Bonadonna et al. applied the „gold standard" – ABVD, followed by hybrid MOPP/ABVD combination. During subsequent years many new chemotherapy regimens were implemented: B-DOPA, MVPP, ChlVPP, Stanford V, BEACOPP, DBVE.

In Polish pediatric centers, combined chemotherapy and radiotherapy was introduced by Armata in 1969. MVPP combination was initially applied followed by addition of B-DOPA schemes. The intensity of chemotherapy and radiotherapy were subsequently modified, which resulted in the continuous improvement of treatment results beginning from 2001 as compared to the preceding periods (significant for overall survival and relapse-free survival; $p < 0,001$, as well as for event-free survival; $p < 0.00001$). Since 2008, the first international multi-center protocol for the treatment of classical Hodgkin's Lymphoma is available - EuroNet-PHL-C1, consisting of OEPA, COPP and COPDAC courses with or without RT.

Simultaneously the radiation dosage and fields were gradually decreased. Currently, most pediatric centers worldwide employ multidrug chemotherapy combined with lower doses of limited field radiotherapy. For localized HL stages with favorable prognostic features radiotherapy is omitted.

During the last few years very promising results were obtained using monoclonal CD20 and CD30 antibodies as targeted lymphoma treatment. It might be possible to reach disease remission with such treatment modalities.

Key words: Hodgkin's lymphoma, development in diagnostics and treatment, results