There are few identified factors associated with an increased risk of ALL. The primary accepted nongenetic risk factors for ALL are prenatal exposure to x-rays and postnatal exposure to high doses of radiation (e.g., therapeutic radiation as previously used for conditions such as tinea capitis and thymus enlargement). Children with Down syndrome have an increased risk of developing both ALL and acute myeloid leukaemia (AML), with a cumulative risk of developing leukaemia of approximately 2.1% by age 5 years and 2.7% by age 30 years. Approximately one-half to two-thirds of the cases of acute leukaemia in children with Down syndrome are ALL.

Among children with ALL, more than 95% attain remission and 75% to 85% survive free of leukaemia recurrence at least 5 years from diagnosis with current treatments. It was less than 50% during the early 80’s. Chronic lymphocytic leukaemia (CLL) has for long time been a single entity but it is now mixed with small lymphocytic non-Hodgkin lymphoma. This evolution in definition is one example of difficulties when looking at trends and survival. Same difficulties arise when dealing with other myeloproliferative disorders, such as CML.

The Non Hodgkin Lymphomas (NHL) are an heterogeneous group of lymphoproliferative malignancies with differing patterns of behaviour and responses to treatment, representing about 1400 new cases and 550 death per year in Switzerland, with a relative steady incidence rate over time.

NHL can be divided into two prognostic groups: the indolent and the aggressive lymphomas. Indolent NHL types have a relatively good prognosis with a median survival as long as 10 years, but they usually are not curable in advanced clinical stages. Early stage indolent NHL can be effectively treated with radiation therapy alone. Most of the indolent types are nodular (or follicular) in morphology. The aggressive type of NHL has a shorter natural history, but a significant number of these patients can be cured with intensive combination chemotherapy regimens. With up to date treatments, overall survival at 5 years is approximately 50% to 60%. Of patients with aggressive NHL, 30% to 60% can be cured. The vast majority of relapses occur in the first 2 years after therapy. The risk of late relapse is higher in patients with a divergent histology of both indolent and aggressive disease. Aggressive lymphomas are increasingly seen in HIV-positive patients, requiring special consideration.

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