Cancers in children and adolescents are relatively rare diseases. They represent less than 1% of adult cancers, with a standardized incidence ranging between 80–140 cases per one million children (Lewis, I.J., 2003). It is estimated that in developed countries, approximately one in every 650 children under the age of 15 will develop a malignant tumor.

The most common type of cancer in childhood is leukemia (30%), followed by tumors of the central nervous system (20%), malignant lymphomas (13%), neuroblastoma (8%), kidney tumors (6%), soft tissue sarcomas (6%), bone tumors (5%), and others (retinoblastoma, germ cell tumors, liver tumors, etc.). Epithelial tumors, which are the most frequent cancers in adults, represent only 1–2% of all childhood cancers (Koutecký, J., 2002; Lewis, I.J., 2003).

The different histogenetic origin of pediatric cancers is reflected, on one hand, in the aggressive growth and early metastasis of most tumors, and on the other hand, in their higher sensitivity to anticancer treatment (Koutecký, J., 2002; Helman, L.J., Malkin, D., 2005). Many previously fatal diseases are now treatable and even curable thanks to modern multimodal therapy. Currently, in specialized pediatric hemato-oncology centers, with the use of all available therapeutic modalities, 60–80% of patients can be cured regardless of the type and extent of the cancer (Poplack, D., Pizzo, P.A., 1997).

Nevertheless, in some pediatric patients — especially those with unfavorable histogenetic tumor types, locally advanced, or disseminated disease — the cancer may relapse with a fatal outcome. Despite clear advances in diagnosis and treatment, childhood cancer remains the second most common cause of death in children after injuries (Robinson, L., 1993). It continues to pose a serious socioeconomic and healthcare problem (Koutecký, J., 2002).