

Updates in the Treatment for Childhood Leukemia: an Article Review

Akaber Abu Sofian, Masa Abu Omar, Wesal Hafaitha

Supervisor: Dr. Rowa' Al-Ramahi

Abstract

Cancer is one of the major causes of morbidity and mortality in Palestine. Leukemia is the most common type in children from birth to 14 years, that represents 30% of all cancers in children in Palestine. Leukemia is a blood cancer, results from loss of regulation of blood cells production. Acute Lymphocytic Leukemia (ALL) is the most common leukemic cancer in children. The exact causes for this disorder remain unclear, but there are many factors may increase risk of it. There are many modalities in the treatment of childhood leukemia, but chemotherapy still the main one used. Treatment of Acute Myloid Leukemias (AML) and ALL has developed recently due to the discovery of targeted and immunotherapy such as CAR-T therapy, BCR-ABL tyrosine kinase inhibitors like Dasatinib, monoclonal antibodies like Blinatumomab, antibody-drug conjugate as Gemtuzumab Ozogamicin and targeted therapy as Bortezomib, Enasidenib, Ivosidenib, Midostaurin and Gilteritinib, Bcl-2 protein inhibitor (Venetoclax), Hh signaling pathway inhibitor (Glasdegib). All of these therapies have been very successful and improved quality of life and survival rates for treatment of AML and ALL so they may decrease the need for cytotoxic therapies.