PP 66

Multiple relapsed acute lymphoblastic leukemia with t(9;13) in a child

D. Gurlek Gokcebay*, Y. Akcabelen, A. Koca Yozgat, D. Kacar, O. Arman Bilir, M. Isik, I. Ok Bozkaya, N. Ozbek, N. Yarali

Ankara City Hospital, Ankara, Turkey

Objective: Acute lymphoblastic leukemia (ALL) is the most common form of childhood cancer. Patients with ALL are classified into genetic subtypes based on the occurrence of recurrent chromosomal abnormalities detected by karyotyping, fluorescent in situ hybridization (FISH), and/or polymerase chain reaction (PCR) amplification. Both the B-cell precursor and T-ALL comprise multiple subtypes defined by chromosomal alterations. The most known subtypes of ALL are t(12;21), t(1;19), t(9;22), iAMP21, hypo/hyperdiploidy and KMT2A rearrangements.

Case report: A 5-year-old boy was admitted to our hospital with fever and cough. His physical examination was normal, except hepatosplenomegaly. Complete blood count showed hemoglobin of 12.1 g/dL, white blood cell count of 198 $\times$ 10^9/L, and platelet count of 61 $\times$ 10^9/L. His peripheral blood and bone marrow aspiration smear showed L1-type lymphoblasts. He was diagnosed with B-precursor ALL without central nervous system (CNS) involvement, and ALL-IC BFM 2009 protocol was initiated. His bone marrow cytogenetic analysis revealed 46, XY with t (9;13). 33rd-day bone marrow showed >5% blasts, minimal residual disease (MRD) result by flow cytometry was 0.014%. He received a high-risk chemotherapy protocol, and hematopoietic stem cell transplantation (HSCT) was performed with total body irradiation conditioning from a matched unrelated donor. On the 130th day of the HSCT, he was readmitted to the hospital with testicular enlargement. Complete blood count showed a leukocyte count of 111x109/L with lymphoblasts. Orchiectomy was performed for testicular relapse, and REZ-BFM 2016 protocol and then blinatumomab was given. Thereafter, a second HSCT from another matched unrelated donor was performed. However, on the 83rd day of the second HSCT, bone marrow and CNS relapse occurred. He received weekly intrathecal chemotherapy and FLAG-IDA (fludarabine, high dose cytarabine, G-CSF, and idarubicin) protocol that continued with weekly oral methotrexate and daily 6-mercaptopurine and received 18 Gy cranial radiotherapy. Five months later, he admitted to hospital with generalized convulsion and isolated CNS involvement detected. He received intrathecal chemotherapy for six weeks with oral methotrexate and 6-mercaptopurine. However, two months later, he readmitted with headache and combined CNS and bone marrow involvement was detected and ETO-FLAG (fludarabine, high dose cytarabine, G-CSF, and etoposide) regimen was given. He is still followed-up at our clinic with invasive fungal infection and neutropeni.

Methodology: Herein, we present a child had t (9;13) with multi-relapsed ALL.

Results: In English literature, only one adult ALL case has been reported with t (9;13) and poor outcome. Nonrandom abnormalities of chromosome 9p, especially a breakpoint in 9p21-22, may occur in childhood ALL in association with a higher incidence of extramedullary relapse and treatment failure, as in our case.

Conclusion: Treatment of relapsed ALL still is a challenge and experimental trials may be considered for these patients.

https://doi.org/10.1016/j.htct.2020.09.129

PP 67

Occurence of acute myeloid leukemia after primary hepatic carcinoma in a patient who had liver transplantation

C. Coskun[1,*], S. Unal[2], A. Uner[3], T. Aksu[1], S. Aytac[1], B. Kuskonmaz[1], F. Gumruk[1]

[1] *Hacettepe University, Department of Pediatric Hematology, Ankara, Turkey*
[2] *Hacettepe University, Research Center for Fanconi Anemia and Other Inherited Bone Marrow Failure Syndromes, Ankara, Turkey*
[3] *Hacettepe University, Department of Pathology, Ankara, Turkey*

Objective: Recent advances in disease-free survival rate following organ transplantation have led to an increased incidence of malignancies after transplantation. The most common malignancies after transplantation are solid tumors, including posttransplantation lymphoproliferative diseases, sarcomas and skin carcinomas. Acute leukemias are very rare after transplantation and the incidence of acute leukemia among solid organ recipients is 0.12–2.5%. Herein, we describe a case of AML-M7 after liver transplantation.

Case report: A 10 years-old girl was admitted to our hospital because of abdominal pain and abdominal mass. An abdominal ultrasound examination showed the solid mass lesion in right adrenal region and liver. With the pathology report, the patient was diagnosed with hepatocellular carcinoma. Chemotherapy was started and surgical mass excision was made. After recurrence, liver transplantation was performed from the father. Tacrolimus was started prophylactically. Approximately 5 years after liver transplantation, the patient was referred to hematology with fatigue and leg pain. Family history revealed that mother had breast cancer and her brother died at the age of 2.5 due to hepatoblastoma. She was pancytopenic and bone marrow aspiration and biopsy revealed acute myeloid leukemia with flow cytometry AML FAB M7 was diagnosed. AML BFM 2019 protocol was initiated. Cytogenetic and molecular work-up from bone marrow samples revealed only monosomy 7. Familial cancer susceptibility genes revealed p53 gene mutation and BRCA2 gene mutations. Hematopoietic stem cell transplantation was planned.

Results: Immunosuppressive treatments used after liver transplantation may have impact on secondary cancer development, additionally genetic familial risks in our patient may also have contributed to subsequent leukemia development.

Conclusion: The development of AML after liver transplantation is a relatively rare complication and several such cases of AML have been reported, previously. Immunosuppressive treatments used after liver transplantation may have impact on secondary cancer development, additionally