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Case Report

Myelodysplastic Syndrome with Complex Cytogenetics Converted into Acute Myeloid Leukemia within Short Duration, Case Reported in Tertiary Care Hospital Karachi, Pakistan

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Abstract

Introduction: 36 years old male presented with low-grade fever for two months and occasional night sweats, diagnosed as myelodysplastic syndrome after complete workup.

Method: All base line investigations were done including complete blood count, Liver function test, Renal function test, hepatitis B and C and bone marrow aspirate and trephine.

Result: After receiving appropriate treatment which turn out to be nonresponsive and myelodysplastic Syndrome (MDS) is converted into acute myeloid leukemia within short duration and with treatment which is very rare.

Keywords: Myelodysplastic Syndrome; Acute Myeloid Leukemia; Bone Marrow

Myelodysplastic syndrome is a group of neoplasms characterized by anemia, neutropenia, thrombocytopenia, and dysplastic cellular morphology [1]. They are characterized by ineffective hematopoiesis leading to cytopenia's that causes many complications. This condition is seen usually in older adults [2]. In MDS some of the bone marrow cells are dysplastic and have problems forming new blood cells. The most common finding in MDS is shortage of red blood cells. Clinical presentation is variable. Some patients may present with fatigue, Infection, bruising and other manifestations of cytopenias while others are asymptomatic. Transformation of MDS to AML is a known phenomenon in the natural history of MDS [3].

Acute Myeloid leukemia is cancer of the blood and bone marrow. It is the most common type of acute leukemia in adults. Median onset is 65 years. Increased circulating myeloblasts are seen on peripheral film. Risk factors are prior exposure to alkylating chemotherapy, radiation, and myeloproliferative disorder. Clinical findings include signs and symptoms related to anemia, headache or focal neurological complaints, bleeding, and bruising [5].

Definitive diagnosis is established on bone marrow biopsy and flowcytometry.

36 years old male presented with low grade fever for 02 months and occasional night sweats. work up was done showed 3% circulating blast cells on peripheral film. Bone marrow biopsy showed occasional blast cells and 20-25% cellularity. Cytogenetics showed complex form with Monosomy 5q,7q and trisomy 8. Diagnosis of myelodysplastic syndrome was established.

Two cycles of Azacitidine and venetoclax were given to which patient was nonresponsive. He was planned for Haploidentical bone marrow transplant. Meanwhile MDS transformed to Acute Myeloid leukemia with 40% blast cells on peripheral film and bone marrow biopsy consistent with AML. He received 3+7 induction chemotherapy (Daunorubicin+cytarabine). post induction bone marrow biopsy was done which showed residual disease with 35% blast cells. He received FLAG-IDA post recovery.

Within 5 months transformed from MDS to AML after receiving treatment of MDS which is very rare.

Bone marrow biopsy does not show clearance of disease post chemotherapy. He received on and off blood transfusions and supportive treatment. He was switched to palliative care and expired due to bilateral pneumonia.

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