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# Case Report of Successful Symptomatic Management of Elderly Patient with Very High-Risk MDS-Transformed AML

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**Case Report**
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## Abstract

American Society of Hematology (ASH) recommends antileukemic therapy over best supportive care for older adults with acute myeloid leukemia (AML) [1]. According to the SEER database from 2010 to 2017, the 5-year overall survival (OS) in individuals with AML diagnosis over 70 years of age was around 5% [2]. We describe a case of nearly one-year survival in an elderly patient with a very high-risk myelodysplastic syndrome (MDS) that later transformed into AML with supportive therapy only.

**Keywords:** Acute Myeloid Leukemia; Myelodysplastic Syndrome; Transformation; Symptomatic Treatment

**Abbreviations:** ASH: American Society Of Hematology; AML: Acute Myeloid Leukemia; OS: Overall Survival; MDS: Myelodysplastic Syndrome; BM: Bone Marrow.

## Case Report

A 75-year-old woman was admitted to the hematology center on 18.01.2020 unfit, with complaints of fatigue, pain in the right hand, the impossibility of physical activity during the previous week, febrile temperature, and inflammation of the ear helix. PCR tests for COVID-19 infection were twice negative, although CT scan showed 2-3% of pulmonary inflammation characteristic for viral infections. The patient also reported that her cousin died of leukemia (not specified by the patient). Physical examination showed unilateral right ear inflammation and tachycardia. Laboratory analysis revealed hyperchromic anemia (RBC=1.88×$10^{12}$/l, Hb=67g/l, MCV=103.7fl, MCH=35.6pg, MCC=34.4g/dl), mild leukopenia (WBC=3.27×$10^{9}$/l), monocytosis (24%), elevated ESR (80mm/h), hyperfibrinogenemia (6.77g/l), and disaggregation of thrombocytes. On ultrasound, cholecystolithiasis and fewer renal cysts were found out. A full-body CT scan showed compression of the L1 vertebra and osteoporosis. Bacteriological analysis of the patient's ear helix was diagnosed with erysipelas caused by β-hemolytic Streptococcus. Folate and $B_{12}$ levels were within normal.

Based on these laboratory findings, myelodysplastic syndrome (MDS) was suspected in this patient, which following the first myelogram, histopathology of trephine biopsy, and bone marrow (BM) karyotyping confirmed the diagnosis [3]. In particular, karyotyping revealed aneuploidy on chromosomes 5, 7 and 21, and constructional changes on chromosome 3, are proving the high risk of MDS [3]. With an interval of 19 days, a second myelogram was indicated, which established the transformation of MDS into acute leukemia (64.5% blast cells in BM), whereas cytochemistry depicted blasts of myeloid lineage.

Treatment was recommended with Venetoclax + Azacitidine regimen or supportive care [1,3-6]. Symptomatic treatment was chosen because of the patient's age, altered status and very high-risk stratification by the patient's medical and family history. She received 21 RBC transfusions for anemia, 3 antibiotic treatment courses with local anti-inflammatory gels for erysipelas, bisoprolol to control tachycardia, and NSAIDs for febrile temperature. The latest hematological status checked on 02.09.2021 showed RBC of $2.53\times10^{12}$/l, Hb of 76g/l, platelets of $53\times10^{9}$/l, and WBC of $33.32\times10^{9}$/l with 83% of blast cells. The symptomatic treatment approach also helped to somewhat improve initial complaints of fatigue, tachycardia, and occasional fever. Nine months from the date of diagnosis, the patient's condition has been controlled by supportive care only.

## Conclusion

The optimal medical treatment of medical unfit elderly patients with AML remains a great challenge [6]. Epidemiological analyses provide substantial improvements in the 5-year OS patients with AML during 1980-2017 [2]. Although recent recommendations from ASH encourage consideration of intensive chemotherapy for all patients with AML, some individual cases may benefit from supportive care only [1]. In this particular case, there were few minor complications, namely, recurrent erysipelas associated with immunodeficiency, persistent tachycardia. Symptomatic treatment of elderly AML patients transformed from a very high-risk MDS can be associated with longer survival rates than previously assumed. Further studies are needed in a large group of patients with MDS-transformed AML with an unfavorable karyotype in order to conclude our assumption of longer survival with symptomatic treatment.

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