Myelodysplastic syndromes in morocco: Evolution over 15 years

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Introduction

Myelodysplastic syndromes (MDS) are defined as a group of clonal hematopoietic cell diseases characterized by cytopenia, dysplasia in one or more of myeloid cell lines, ineffective hematopoiesis, and an increased risk of progression to acute myeloid leukemia (AML).

According to a study conduced in the departement of hematology and pediatric oncology, hospital 20august, from january 2008 to december 2016, the incidence of MDS was 2% (204 cases),

objective

The objectives of our study are to determine the incidence of MDS in the pediatric hematology and oncology department of hospital 20 August 1953, and to collect data on the evolution of MDS in our patients.

Patients & Methods

This is a descriptive retrospective study made at the Pediatric Hematology and Oncology Department of hospital 20 August 1953 of the hospital university center Ibn Rochd Casablanca, including all patients with MDS confirmed on blood counts, blood smear test, bone marrow aspiration or bone marrow biopsy, karyotype and molecular biology*, diagnosed between January 2004 and December 2018. Patients with CMML, MDS/MPS border syndromes, or AML were excluded from our study, we calculated the International Prognostic Score and specified (IPSS)** the correspondants: low risk, intermediate risk I, intermediate II, high risk,

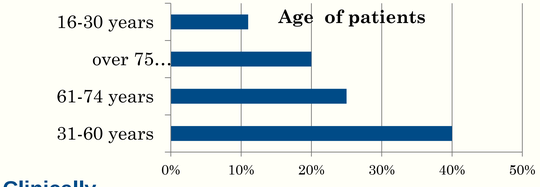
*non avalable in our hospital

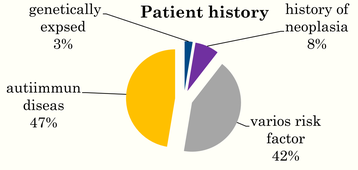
**International scoring system for evaluating prognosis in myelodysplastic symdromes, Blood 1997

Results

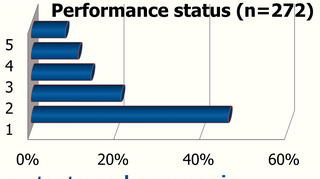
We found 272 patients diagnosed with MDS, The median incidence of MDS in our study was 19 cases/year, the median age was 59.5 years with extremes ranging from 5 months to 95 years. The sex ratio (M/F) is 0.74 .

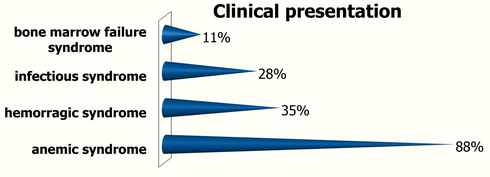
Patients characteristics:

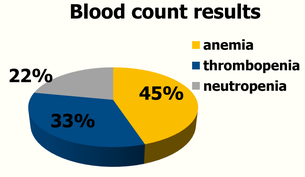




Clinically







Biology tests and prognosis

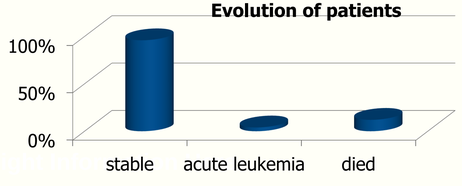
Biology tests	Patients	percentage%
blood count	270	99
blood smear test	61	22
bone marrow aspiration	272	100
bone marrow biopsy	96	35
karyotype	123	45
molecular biology	14	5

patients	IPSS
27%	low
61%	intermediateI
7%	intermediateII
5%	high

Treatment and evolution

Therapeutically, we found that 74% of patients received symptomatic treatment (red blood cell transfusions or/and platelet units, antibiotics, EPO).

Fifteen patients in our series received specific treatment (Azacitidine, cytarabine, doxorubicin, 6-Mercaptopurine and allograft).



Discussion

According to a study conducted in Kosovo on the epidemiology of MDS over a period of 6 years, 37 patients were diagnosed , this incidence is lower than in Morocco, For the majority of patients, the main treatment was erythroid-stimulating agents (1),

Based on a study on a molecular characterization and clinical treatment of acute myeloid leukemia and MDS patients with TP53 mutation, there was no difference in efficacy between intensive chemotherapy and low intensive chemotherapy for TP53- mutated patients (2), Another study confirms thatSF3B1 mutations in MDS are commonly associated with ring sideroblasts and relatively favorable clinical outcomes, patients with mutation shows better responses to an erythroid-stimulating agent (3),

Conclusion

Diagnosis of MDS is currently based on bone marrow cytology, but the contribution of cytogenetic and molecular biology seems to go beyond prognostic interest (early diagnosis, prediction of therapeutic response). While the treatment of low-risk myelodysplastic syndromes is based on the correction of cytopenias (agents stimulating erythropoiesis, transfusions, lenalidomide, etc.), that of high-risk myelodysplastic syndromes aims to control the leukemic clone (hypomethylating agents, hematopoietic stem cell allograf tfor curative purposes).

References

1.*Epidemiology of MDS in Kosovo during 2014-2019, 2020 Elsevier Inc,*

2.*Molecular characterization and clinical treatment of AML and MDS patients with TP53 mutatio, 2021 Elsevier Inc*

3.*Clinical outcomes with ring sideroblasts ansSF3B1 Mutations in Myelodysplastic Syndroms, 2018 Elsevierr Inc*