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POSTER ABSTRACTS

906.OUTCOMES RESEARCH-MYELOID MALIGNANCIES

Comparison of the Revised 4 Th (2016) and 5 Th (2022) Editions of the World Health Organization (WHO) Classification in a Cohort of Patients with Lower-Risk Myelodysplastic Syndromes/Neoplasms (MDS) - a Glam Registry (REGLAM) Analysis

Marcelo Iastrebner, MD[1], *Amer M. Zeidan, MBBS, MHS*[2], *Jorge Arbelbide, PhD*[3], *Elvira Deolinda Rodrigues Pereira Velloso, MDPhD*[4], *Thales D.M. Pereira, MD*[5], *Matilde Boada, MD*[6], *Renee Crisp*[7], *Patricio Hernan Pereyra, PhD*[8], *Jheremy Reyes*[9,10], *Maria Helena Zappa*[11], *Fernando perez-Jacobo, MD*[12], *Jose Antonio Dela Peña Celaya*[13], *Emmanuel Martinez Moreno, MD*[14], *Virginia Abello, MD*[15,16], *Maria Elena Solano*[17,18], *Diana Cuervo, MD*[19,16,20], *Daniel Lorenzo Espinosa*[21,22], *Claudia Patricia Casas, MD*[23,24], *Leire Montoya*[13], *Alicia Enrico*[25], *Virginia Prates*[26], *Elia Ixel Apodaca Chavez, MD*[27], *Juan Ontiveros-Austria, MD*[28], *Laura Kornblihtt*[29], *Andres Gomez-De Leon, MD*[30], *Victoria Toledo*[31], *Luz Negri, MD*[32], *Juan Serrano*[33], *Alexia Sánchez*[34], *Ana Cecilia Rodriguez-Zuñiga*[34], *Mariana Stevenazzi*[35], *Valentina Goldschmidt*[36], *Sofia Grille, MDPhD*[37]

[1] Sanatorio Sagrado Corazón, Buenos Aires, Argentina
[2] Section of Hematology, Department of Internal Medicine, Yale University School of Medicine - Yale Cancer Center, New Haven, CT
[3] Hospital Italiano de Buenos Aires, Buenos Aires, Argentina
[4] Hematology and Transfusion Medicine, Hospital das Clinicas, Sao Paulo, University of Sao Paulo, Sao Paulo, Brazil
[5] Universidade de São Paulo, São Paulo, Brazil
[6] Unidad Académica de Hematologia. Hospital de Clinicas. Facultad de Medicina. Universidad de la Republica, Montevideo, URY
[7] Hospital Nacional Prof. Alejandro, Posadas, Buenos Aires, Argentina
[8] Hospital Nacional A. Posadas, Buenos Aires, Argentina
[9] Clínica los Cobos, Bogotá, Colombia
[10] Clínica los Nogales, Bogotá, Colombia
[11] Clinica Los Nogales, Bogotá, Colombia
[12] Hospital Central Norte PEMEX, MExico city, Mexico
[13] Centro Medico Nacional 20 de Noviembre ISSSTE, Ciudad de México, Mexico
[14] Hospital General de México Dr Eduardo Liceaga, Ciudad de México., Mexico
[15] Hospital de San José -Fundación Universitaria de Ciencias de la Salud, Bogotá, Colombia
[16] Registro Epidemiológico de las Cohortes de Pacientes Diagnosticados con Neoplasias y Enfermedades Hematológicas en Colombia (RENEHOC), Bogotá, Colombia
[17] Hospital San José, COLOMBIA, COL
[18] Registro Epidemiológico de las Cohortes de Pacientes Diagnosticados con Neoplasias y Enfermedades Hematológicas en Colombia (RENEHOC), BOGOTA, COL
[19] Fundación Universitaria de Ciencias de la Salud, Bogota, Colombia
[20] Hospital de San José, Bogotá, Colombia
[21] Registro Epidemiológico de las Cohortes de Pacientes Diagnosticados con Neoplasias y Enfermedades Hematológicas en Colombia (RENEHOC), Bogota, COL
[22] Hospital de San José- Fundación Universitaria de Ciencias de la Salud, Bogota, Colombia
[23] Registro Epidemiológico de las Cohortes de Pacientes Diagnosticados con Neoplasias y Enfermedades Hematológicas en Colombia (RENEHOC), Bogota, Colombia
[24] Hospital de San José- Fundación Universitaria de Ciencias de la Salud, BOGOTA, COL
[25] Hospital Italiano La Plata, La Plata-Buenos Aires, ARG
[26] Hospital Italiano-La Plata, La Plata-Buenos Aires, ARG
[27] Hematology and Oncology Department, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico

[28] Hematology Department, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico
[29] Hospital de Clínicas José de San Martín, Buenos Aires, Argentina
[30] Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario "Dr. Jose Eleuterio Gonzalez", Mexico, Monterrey, Mexico
[31] Hematología. CASMER, Rivera, URY
[32] Hospital Nacional Itaugua, Asuncion, PRY
[33] Clínica Cancerologica del Norte de Santander, Cucuta, Colombia
[34] Universidad Autónoma de Nuevo León. Facultad de Medicina y Hospital Universitario Dr. José Eleuterio González, Monterrey, Mexico
[35] Mautone, Maldonado, URY
[36] Hospital Padre Hurtado y Hospital del Salvador, Santiago, CHL
[37] Unidad Academica de Hematologia. Hospital de Clinicas. Facultad de Medicina. Universidad de la Republica, Montevido, Uruguay

Background: The5 th (2022) edition of the WHO Classification for MDS recognizes MDS patients into two groups: MDS with defining genetic abnormalities and MDS morphologically defined. Further, the revised International Prognostic Scoring system (IPSS-R) assigns MDS patients into one of prognostic groups with distinct survival probabilities. However, both the IPSS-R and the 2022 WHO classification were developed based on data largely generated from patients in the high-income countries. There are limited data of how these systems perform in patients from developing and middle-income countries (LMIC). The primary objective of this study was to compare the performance of the two WHO classification: the revised 4 th (2016) and 5 th (2022) editions in IPSS-R defined Lower-Risk MDS Cohort of patients from LMIC in the GLAM registry.
Methods: TheGlam Registry enrolls patients from 16 Latin-American countries, For this analysis, we selected Lower risk MDS (defined as IPSS <3.5) patients from Argentina, Brazil, Chile, Colombia, Mexico, Paraguay, and Uruguay. Patients with CMML and higher-Risk MDS were excluded. The study was conducted in compliance with local regulations, and all subjects signed inform consents. Descriptive statistics, Sankey Diagram, Kaplan Meier methods and the Confidential Interval for the 5-year survival probability were used to report the results. Overall survival (OS) was measured from time of diagnosis to last contact or death, and progression-free survival (PFS) was measured from time of diagnosis to disease progression, progression to acute myeloid leukemia (AML), or death.
Results: A total of 223 LR-MDS patients were included in this analysis. Baseline characteristics and demographics are described in Table 1. Median age was 69 years, 47% were males, and 71% were non-Hispanic whites. The median blast count was 1% (range, 0-8%), and only 7% had therapy-related MDS. According to WHO-2016 edition, patients were classified as MDS-RS-SLD (n = 15 [6.72 %]); MDS-RS-MLD (n = 23 [10.3 %]); MDS-RS-T (n = 6 [2.7 %]), MDS-del(5q) (n = 15 [6.7 %]), MDS-SLD (n = 34 [15.2 %]), MDS-MLD (n = 116 [52 %]), MDS-EB1 (n = 11 [4.9 %]), MDS-EB2 (n = 0 [0 %]), and MDS-U (n = 3 [0.66 %]). According to WHO-2022 classification, subjects were classified as: MDS-del(5q) (n = 15 [6.7 %]), MDS-LB-SF3B1-RS (n = 40 [17.9% %]), MDS-biTP53 (n = 0 [0 %]), MDS-LB (n = 131 [58.7 %]), MDS-h (n = 27 [12.1 %]), MDS-IB1 (n = 10 [4.4 %]), MDS-IB2 (n = 0 [0 %]) and MDS-f (n = 0). Figure 1 represents the shifts in classification of patients between the 2016 and 2022 version. The 5-year survival probabilities (%) of MDS-SLD vs MDS-MLD (WHO-2016) was 62.5% (95CI 37.8-79.7) vs. 54.6% (95CI 39.9-65.6), and the 5-year PFS probabilities (%) for MDS-SLD vs MDS-MLD were 62.5% (95CI 37.8-79.7) vs 53.6% (95CI 39.9-65.6) respectively. There were no cases of biTP53-mutation among the 12.1% of patients who had testing for TP53. Three patients were re-classified from MDS-RS-MLD (WHO-2016) to MDS-LB (WHO-2022) because SF3B1 mutation was associated with complex karyotype, del(5q), del(7q) and/or TP53 monoallelic. Four patients with MDS-U (WHO-2016) were re-classified to MDS-LB (WHO-2022). MDS-LB category (WHO-2022) was a large and a very heterogeneous group with an OS and LFS of 5.2 years.
Conclusions: Our study, to our knowledge, provides one of the first, if not the first, datasets from LMIC to describe characteristics of IPSS-R lower-risk MDS pts and their re-classification and corresponding survival according to the WHO 2016 and 2022 classifications. Limited availability of molecular analysis in real-life settings (e.g., *TP53* mutations) highlights some of the challenges of using the 2022 WHO classification (as well as IPSS-M) LMIC. Understanding the epidemiology of MDS pts in LMIC is important especially as some of the newly approved agents for lower risk MDS are starting to be used in these countries.

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Table 1 Baseline Characteristics, Demographics, and survival probabilities according to 2016 and 2022 WHO classifications

Variables	n=223	
Age at diagnosis, median (range)	68.5 (16-94)	
Male sex, n (%)	104 (46.6)	
Non-Hispanic White, n (%)	89 (71.2)	
Hemoglobin (gm/dl), median (range)	9.8 (3.7-16.4)	
WBC count (x10^9/L), median (range)	3.8 (0.1-22)	
ANC (x10^9/L), median (range)	3.4 (0.05-90)	
Platelet count (x10^9/L), median (range)	149 (2-900)	
Peripheral blast (%), median (range)	0 (0-10)	
Bone marrow blast (%), median (range)	1 (0-8)	
Transfusion dependent, n (%)	61 (44.2)	
SF3B1 Mutation	6/27 (22.2)	
IPSS-R Categories, n (%)		
Very low	60 (26.9)	
Low	135 (60.5)	
Intermediate	28 (12.6)	
Therapy-related MDS n (%)	15 (6.7)	
Treatment modalities, n (%)		
ESA	115 (51.5)	
Lenalidomide, ATG	12 (5.4)	
HMA	49 (22.0)	
Allogeneic HSCT	7 (3.1)	
Rate of AML transformation, n (%)	23 (10.3)	
Median OS, years	6.4 (95%CI 4.4-NA)	
Median LFS, years	5.5 (95%CI 4.1-NA)	
WHO-2016	**OS** (years)	**LFS** (years)
MDS-RS-SLD	8.4 (0.8-NA)	8.4 (0.8-NA)
MDS-RS-MLD	4.4 (1.8-NA)	4.4 (1.8-NA)
MDS/MPN-RS-T	2.5 (0.3-NA)	2.5 (0.3-NA)
MDS-del(5q)	4.1 (2.8-NA)	4.1 (1.3-NA)
MDS-SLD	Not reached	Not reached
MDS-MLD	6.4 (3.8-NA)	6.4 (3.8-NA)
MDS-EB1	4.4 (1.0-NA)	3.9 (0.7-NA)
MDS-U	Non calculated	Non calculated
WHO-2022	**OS** (years)	**LFS** (years)
MDS-SF3B1/RS	5.5 (2.8-NA)	5.5 (2.8-NA)
MDS-del(5q)	4.1 (2.8-NA)	4.1 (1.4-NA)
MDS-LB	5.2 (3.8-NA)	5.2 (3.5-NA)
MDS-h	Not reached	Not reached
MDS-IB1	4.4 (1.0-NA)	2.7 (0.7-NA

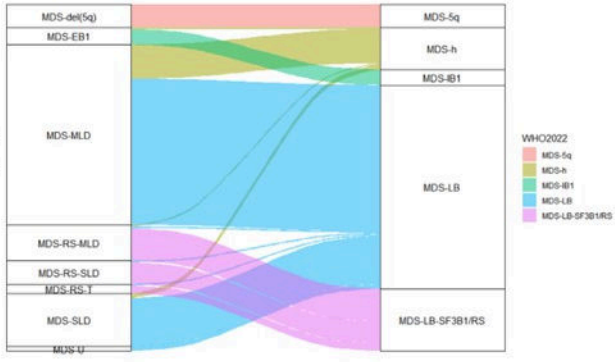

Figure 1 Sankey diagram showing the transitions in classification of IPSS-R Lower risk MDS patients between the 2016 and 2022 classifications.

Figure 1

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