EXCESS MORTALITY IN MYELODYSPLASTIC NEOPLASMS WITH RING SIDEROBLASTS: A GESMD REGISTRY STUDY.

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INTRODUCTION

Myelodysplastic neoplasms with ring sideroblasts (MDS-RS) represent a biologically distinct, generally favorable-risk MDS subtype, frequently associated with **SF3B1 mutations**.

Despite this favorable profile, patients may still experience **excess mortality** related to anemia, transfusion burden, cytopenias, adverse cytogenetics, comorbidities, and disease biology.

Relative survival analysis allows estimation of disease-attributable mortality by comparing observed survival with expected survival from the general population.

AIM

To estimate relative survival and excess mortality among patients with MDS-RS compared with the Spanish general population matched by age, sex, and calendar year, and to identify clinical and cytogenetic factors associated with excess mortality.

METHOD

Retrospective multicenter **GESMD registry** study including adults with **MDS-RS**, defined as ≥15% bone marrow ring sideroblasts, or ≥5% ring sideroblasts with **SF3B1 mutation** when available, with <5% bone marrow blasts and <2% peripheral blood blasts. MDS/MPN-RS-T, overlapping myeloid neoplasms, and cases with missing essential survival data were excluded.

Expected survival was derived from Spanish **INE** life tables matched by sex, attained age, and calendar year. **Relative survival** was estimated using the **Pohar-Perme method**. Multivariable excess mortality models were fitted and reported as **EHRs** with 95% CIs.

CONCLUSIONS

In this large GESMD registry cohort, patients with MDS-RS showed **substantial excess mortality** compared with the Spanish general population, with absolute survival gaps of approximately **4.1, 12.3 and 21.3 percentage points** at 1, 3, and 5 years after diagnosis.

Transfusion dependence, intermediate and poor/very poor-risk cytogenetic risk identified subgroups with particularly high excess mortality, supporting risk stratification beyond blast percentage alone.

RESULTS

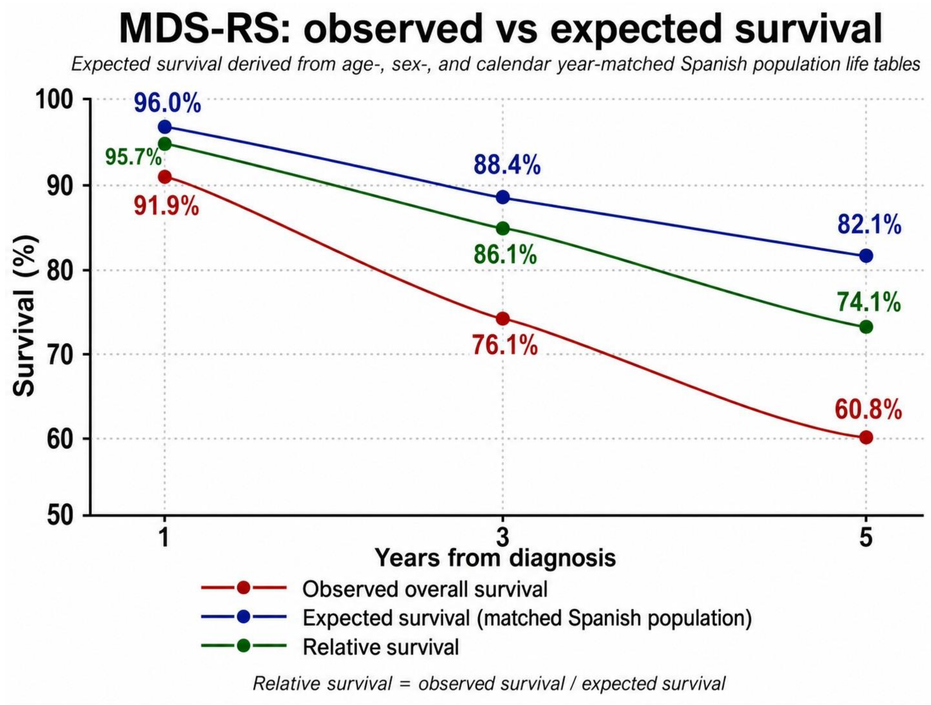
A total of **2,095 patients** with MDS-RS were included; **784 deaths** occurred during a median follow-up of **31.6 months**.

Patients with MDS-RS showed **progressive excess mortality** compared with the matched Spanish general population, with absolute survival gaps of **4.1, 12.3, and 21.3 percentage points** at **1, 3, and 5 years**, respectively. Five-year relative survival was significantly lower in patients with **platelets <100 ×10⁹/L** and varied significantly across **cytogenetic risk groups**.

In multivariable analysis, **transfusion dependence** and **intermediate- or poor/very poor-risk cytogenetics** were independently associated with higher excess mortality.

Factor	EHR	95% CI	p value
Transfusion dependence	2.44	1.22–4.86	0.011
Intermediate-risk cytogenetics	4.75	2.04–11.03	0.00029
Poor/very poor-risk cytogenetics	13.71	5.82–32.33	2.18×10^{-9}

EHR, excess hazard ratio; **CI**, confidence interval. Reference category for cytogenetics: **very good/good-risk.**



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