with poor prognosis. While the other showed that the low *EZH2* expression is associated with alterations in chromosome 7 and disease progression. In our study, we observed that the *EZH2* overexpression in adult patients with MDS was associated with abnormal karyotipes and leukemic evolution. **Conclusion:** Our study suggests that *EZH2* overexpression is associated with the evolution from MDS to AML, being a possible prognostic biomarker. **Support:** Ministério da Saúde – INCA.

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IS FERRITIN A GOOD PREDICTOR OF SURVIVAL ACROSS ALL RISK LEVELS IN MYELODYSPLASTIC NEOPLASMS? INSIGHTS FROM A STRATIFIED COHORT STUDY

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Introduction: Myelodysplastic neoplasms (MDS) are a heterogeneous group of hematologic malignancies characterized by ineffective hematopoiesis. The Revised International Prognostic Scoring System (IPSS-R) is widely used to stratify MDS patients into different risk categories, guiding treatment decisions and predicting survival outcomes. Ferritin has been implicated in the pathophysiology of MDS. Elevated ferritin levels may reflect iron overload, inflammation, or both. However, the prognostic value of ferritin across different risk levels in MDS remains unclear. **Objective:** This study aims to evaluate the prognostic significance of ferritin in patients with MDS, stratified by IPSS-R risk categories. **Methods:** A retrospective cohort study at a single reference center reviewed patients diagnosed with MDS between 2004 and 2024. The study included patients with available clinical outcomes and ferritin values. Missing data for other variables were addressed using the classification and regression tree analysis (CART) Multiple imputation method, following confirmation of non-completely at random missingness through Little's test. Patients were stratified into two groups based on IPSS-R scores: 'high risk', comprising those categorized as 'High' or 'Very High', and 'low risk', encompassing all other IPSS-R categories. The CART method was utilized to determine the optimal ferritin cut-off for predicting overall survival, applying Martingale residuals from a univariate Cox model adjusted for ferritin. Kaplan-Meier curves were subsequently generated to assess survival rates at 1, 3, and 5 years post-diagnosis for patients below and above the ferritin cut-off, with comparisons conducted using log-rank tests. All statistical analyses were performed using R software, leveraging the 'mice' package for imputation and the 'survfit' package for survival analysis. **Results:** A total of 143 patients with available ferritin values and clinical outcomes were included in the study. Using the CART method, an optimal ferritin cut-off of 888.5 was determined, classifying the cohorts into "High Ferritin" (32 patients) and "Low Ferritin" (111 patients). Kaplan-Meier 1, 3, and 5-year survival curves were constructed for both the 'high risk' (17 patients) and 'low risk' (126 patients) groups. Among the 'low risk' patients, those with low ferritin levels, compared to those with high ferritin levels, had significantly higher 3 (78.6% vs 44.3%, $p < 0.001$) and 5-year (57.3% vs. 34.8%, $p < 0.001$) survival rates, although no difference was seen in 1-year rates ($p = 0.45$). Within the 'high risk' group, no difference between the high and low ferritin groups was seen in 1, 3, or 5-year survival rates ($p = 0.26$, 0.066, and 0.066, respectively). **Discussion:** Ferritin, a marker of iron overload and inflammation, plays a role in the pathophysiology of MDS. Our study shows that ferritin levels predict long-term survival in low-risk MDS patients, consistent with previous studies, but are less predictive in high-risk patients. This suggests ferritin's impact may be overshadowed by other factors in high-risk MDS. **Conclusion:** Ferritin level at diagnosis is a good predictor of long-term survival for non-high risk MDS patients, but its efficacy in predicting outcomes for high-risk patients and general short-term survival is less evident.

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STRENGTHENING THE EVIDENCE: RAP1B GENE ASSOCIATION WITH SYNDROMIC THROMBOCYTOPENIA

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Introduction: Syndromic thrombocytopenia encompasses a heterogeneous group of disorders characterized by both quantitative and qualitative defects of platelets, often accompanied by other malformations. The clinical manifestations of patients vary in severity, but bleeding is considered the main complication, which can lead to the development of other disorders such as hematological malignancies. Recently, heterozygous, *de novo* variants in *RAP1B* have been reported in five cases of syndromic thrombocytopenia. Here, we report an additional case of syndromic thrombocytopenia associated with a rare *de novo* variant in *RAP1B*. **Case:** We present a case of a 2-year-old female patient with thrombocytopenia first observed at the age of 6 months. She has severe, persistent thrombocytopenia that is refractory to various therapies. The main phenotypic characteristics identified were hypertelorism, low ear implantation, and a broad forehead. Exome sequencing revealed a rare *de novo* heterozygous variant in the *RAP1B* gene (NM_001010942.3 c.178G>A p.