Turkish Journal of Clinics and Laboratory

To cite this article: Yilmaz F. Myelodysplastic Syndrome and Artificial Intelligence. Turk J Clin Lab 2024; 4: 680

Letter to Editor

# Myelodysplastic Syndrome and Artificial Intelligence

## *Miyelodisplastik sendrom ve yapay zeka*

Fatma Yilmaz*

Ankara Etlik City Hospital, Department of Hematology, Ankara,Turkey

Myelodysplastic Syndrome (MDS); is a clonal disease characterized by dysplasia, ineffective erythropoiesis, cytopenias and the risk of transformation to acute leukemia, first described by Di Guglielma in the 1920s. Various classifications have been used since the disease was defined. The most recent World Health Organization Hematolymphoid Tumors Classification 5th edition and International Consensus Classification changed the MDS classification in 2022 [1].

The most commonly used prognostic scoring system for risk classification is R-IPSS (revised international prognostic scoring system). In a study conducted by Sabile et al. in 2022, it was reported that 152 gene-based molecular IPSS was more accurate than R-IPSS [2]. Despite changes in prognostic scoring systems and individual treatment planning in addition to classification, treatment response remains below expectations. The only curative treatment option is allogeneic stem cell transplantation, which has a high transplant-related mortality rate. There are publications in the literature on the use of artificial intelligence in the diagnosis of many hematological malignancies (acute lymphoblastic leukemia, acute myeloid leukemia, multiple myeloma).

In a review prepared by Elshoeibi et al. in 2023, studies on the use of artificial intelligence in the diagnosis of MDS were summarized. In the studies mentioned in the review, one or more of the parameters such as microscopic images of dysplastic cells, blast count, complete blood count values, flow cytometric results, real-time deformability cytometry and Myelodysplastic Syndrome- Complete blood count (MDS-CBC) score were used in artificial intelligence databases for the diagnosis of MDS [3].

The difficulty of using artificial intelligence in the diagnosis of MDS compared to other hematological malignancies is the use of multiple parameters for diagnosis and risk classification. In the artificial intelligence that will be used in the diagnosis of MDS, the accuracy rate will increase if the database includes all the factors that are effective in the diagnosis and risk classification as much as possible. Artificial intelligence applications that will be implemented using a database that includes as many factors as possible can guide the clinician in the diagnosis of MDS and even in individual treatment choices. Studies with as many patients as possible are needed on this subject.

### References

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Corresponding Author*: Fatma Yilmaz, Ankara Etlik City Hospital, Department of Hematology, Ankara, Turkey.
E-mail: dr.fatmak@hotmail.com
Orcid: 0000-0001-6112-3950
Doi: 10.18663/tjcl.1577122
Recevied: 26.11.2024 accepted: 06.12.2024