Key Takeaways

Challenging Cases in Cancer

Managing Lower Risk Myelodysplastic Syndromes

MDS Incidence

- 1 in 3 patients will progress to AML
- 58% of patients are defined as low-risk MDS
- Anemia is the most common clinical feature
- More than 90% of patients harbor somatic mutations

MDS Classification

- **The Harmonized WHO/ICC 2022 Classification System**
    a. Cytogenic abnormalities- TP53m, SF3B1, del5q
    b. Morphological criteria- defined by blasts

- **IPSS-M Classification System- Prognostic Scoring System**
    c. Bone marrow blasts
    d. Cytogenetics
    e. Cytopenia's

Case Presentations and Management

1. *75-year-old gentleman with a longstanding history of anemia was under observation by his local oncologist.*

Initial Workup

- CBC: Hgb of 8 g/dL, ANC of 3000 K/uL, and platelets of 400 K/uL
- Epo level: 125 U/L

Bone marrow biopsy

- 50% cellularity
- 26% ring sideroblasts
- No increase in blasts
- Megaloblastic changes in the erythroid lineages
- Cytogenetics: Trisomy 8 in 10/20 metaphases
- NGS panel results: *SF3B1* mutation: VAF 40%

Initial Management

- Patient became red blood cell transfusion-dependent (RBC-TD), receiving two units every 2 weeks.
- Placed on Imetelstat at 7.1 mg/kg every 4 weeks after 1L failure with erythropoietin

- There were two occurrences of grade 3 thrombocytopenia, Imetelstat held until platelet recovery, and then the dose was reduced to 5.6 mg/kg for cycle five.

2. 68-year-old female with a history of hypothyroidism presented to the ER with shortness of breath.

Initial Workup

- CBC: Hgb 7.0 g/dL, ANC of 2000 K/uL, and platelets of 270 K/uL
- Epo level: 225 U/L

Bone marrow biopsy

- Hypercellular
- Erythroid dysplasia
- 30% ring sideroblasts
- No increase in blasts
- Cytogenetics: Normal karyotype
- NGS panel results: *SF3B1* mutation: VAF 30%, *TET-2* mutation: VAF 40%

Initial Management

- Patient started on Luspatercept dosed at 1 mg/kg every 3 weeks and escalated to 1.75 mg/kg based on the MEDALIST data.
- The patient then achieved a good response, remaining RBC-TI for 6 months.
- Repeat bone marrow biopsy performed and revealed consistent findings: MDS-RS, *SF3B1, SRSF2*, *TET-2*
- The patient started on Imetelstat 7.1 mg/kg every 4 weeks. After cycle 2, the patient became RBC-TI.
- The patient continues tolerating treatment well, not requiring dose reductions. The last Hgb was 10.6 g/dL.

Collaborative Approach and Conclusion

- **Referral to MDS Centers of Excellence**: Patients can be referred to specialized centers at the time of diagnosis for comprehensive evaluation and treatment recommendations.
- **Collaboration**: Treatment recommendations and opportunities for research identified and communicated to the local community oncology centers.
- **Telemedicine**: Incorporating telemedicine follow-up visits between community center visits can provide additional support for patients and providers until patient responses are achieved.