

patients access to cutting-edge treatments that may be more effective for specific disease profiles. As genomic data and biomarker research progress, trials are increasingly focused on matching patients with therapies based on individual molecular characteristics, increasing the likelihood of a favourable outcome. AI is supporting precision medicine in MM by improving diagnostic accuracy, risk stratification and treatment matching, potentially transforming personalised oncology care. Overall, precision medicine in MM, supported by AI insights, aims to optimise treatment efficacy, promote longer-lasting remission and improve quality of life by tailoring therapies to each patient's unique disease profile.

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SUPPORTIVE CARE AND QUALITY OF LIFE IN MDS: ESSENTIAL MANAGEMENT STRATEGIES

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Supportive care is critical for patients with Myelodysplastic Syndromes (MDS), aiming to enhance quality of life (QoL) amidst this chronic, hematologic disorder. MDS management focuses on alleviating symptoms of ineffective hematopoiesis and preventing complications like infections and cardiovascular disease. Managing Anemia and Transfusion Dependence: Anemia is prevalent in MDS, often requiring blood transfusions. However, frequent transfusions can lead to iron overload, risking damage to organs like the heart and liver. Iron chelation therapy mitigates this risk by reducing iron buildup, crucial for transfusion-dependent patients. Erythropoiesis-stimulating agents (ESAs) are effective in lower-risk MDS patients, reducing transfusion needs, while the recent COMMANDS Trial highlights luspatercept as an alternative to epoetin alfa, showing promising results in managing anemia and improving QoL. Addressing Thrombocytopenia and Bleeding Risks: Patients with MDS frequently experience thrombocytopenia, which increases bleeding risk. Thrombopoietin receptor agonists, like eltrombopag and romiplostim, aid platelet production, though long-term safety and efficacy require further research. For severe cases, prophylactic platelet transfusions are essential, with tailored transfusion thresholds improving patient outcomes. In addition, antifibrinolytic agents, such as tranexamic acid, are used adjunctively to manage bleeding. Infection Prophylaxis: Due to compromised immunity, MDS patients face high infection risks. Antimicrobial prophylaxis and vaccinations against common pathogens are critical. Prophylactic measures are especially relevant for patients with neutropenia, where antibiotics, antifungals, and antivirals provide protection. Vaccinations further support infection prevention, although immune responses in MDS patients may require adjustments. Nutritional and Metabolic Support: Malnutrition is common in MDS and correlates with poor prognosis. Regular nutritional

assessments help address deficiencies, and supplements, particularly of B vitamins and folate, are beneficial in sustaining hematopoiesis. Recent findings suggest vitamin C's potential in supporting hematologic function through DNA demethylation, though optimal dosages are still under study. Cardiovascular and metabolic complications are also common, emphasizing lifestyle modifications and careful management of comorbidities like hypertension and diabetes. Psychological and Palliative Care: Chronic symptoms and disease progression often lead to depression and anxiety among MDS patients. Psychosocial support, including therapy and support groups, can significantly enhance emotional resilience. For those in advanced stages, palliative care, emphasizing dignity and comfort, is essential. Pain management and non-pharmacological approaches for symptoms like fatigue help improve end-of-life quality. Role of Technology and Geriatric Assessments: Telemedicine offers a means for remote monitoring, enhancing access to care for elderly or immobile patients. Geriatric assessments guide treatment decisions, balancing efficacy and tolerance, especially in older patients who may face higher treatment-related risks. In conclusion, MDS supportive care integrates various strategies, from anemia management to infection control, tailored for physical, emotional, and psychosocial well-being. Multidisciplinary approaches and emerging tools like telemedicine continue to improve outcomes, underscoring supportive care's pivotal role in MDS management.

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HARMONIZATION OF TREATMENT APPROACHES: DRAWING INSPIRATION FROM PEDIATRIC TREATMENTS IN ADULT ACUTE LYMPHOBLASTIC LEUKEMIA THERAPY

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Age, genetic characteristics, comorbidities, and minimal residual disease determine prognosis in patients with Acute Lymphoblastic Leukemia (ALL). Advanced age, the presence of adverse genetic markers and reduced treatment intensity typically lead to poorer outcomes, with disease-free survival and remission rates decreasing with age. In adult patients, disease remission rates are around 35%. In recent years, there has been a growing focus on applying treatment protocols developed for pediatric age groups to adult ALL patients. In pediatric ALL protocols, the main factor that enhances treatment success is the dose intensity. These protocols involve higher doses and more frequent dosing intervals of L-asparaginase, vincristine, methotrexate and steroids compared to adult ALL protocols. In recent years, it has been shown that treatment regimens applied to young adult/adolescent ALL patients have an independent impact on outcomes. Various retrospective studies have shown that complete response rates in the 15-20 age group were similar between adult and