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Real-world Evidence on the Management of Elderly Patients with Multiple Myeloma

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Introduction

Multiple myeloma is a complex hematologic malignancy characterized by the uncontrolled proliferation of malignant plasma cells within the bone marrow. It is most commonly diagnosed in elderly patients, with the median age at diagnosis being approximately 70 years. Despite significant advancements in the treatment of multiple myeloma over the last few decades, the management of elderly patients remains a particularly challenging area due to several factors that distinguish this population from younger individuals. Elderly patients with multiple myeloma often present with a combination of age-related comorbidities, frailty, and a decreased ability to tolerate aggressive treatments. Furthermore, the response to therapy may vary significantly in this cohort due to differences in disease biology, genetic factors, and the presence of multiple organ dysfunctions. While clinical trials have provided valuable information about the efficacy of treatments, real-world evidence is critical in understanding how these therapies perform in routine clinical practice, especially among older patients who are often excluded from clinical trials. This article explores the management of elderly patients with multiple myeloma through the lens of real-world evidence, highlighting treatment strategies, challenges, and outcomes in this vulnerable group [1].

Description

The treatment landscape of multiple myeloma has evolved significantly over the years, with the introduction of novel agents such as proteasome inhibitors, immunomodulatory drugs, and monoclonal antibodies. These therapies have dramatically improved survival rates, especially in younger, fitter patients. However, elderly patients are often excluded from clinical trials, primarily due to the presence of comorbid conditions and concerns regarding the tolerability of aggressive treatments [2]. As a result, much of the evidence for the treatment of elderly patients with multiple myeloma comes from observational studies, registry data, and clinical practice. Real-world evidence helps to fill the gap left by clinical trials, providing insights into how therapies perform in a heterogeneous patient population, which includes those with various health conditions, differing functional statuses, and a range of treatment tolerabilities [3].

In elderly patients, the approach to treatment is often more individualized, taking into account the patient's age, performance status, comorbidities, and overall frailty. This population often has a higher burden of diseases such as cardiovascular disease, diabetes, and renal impairment, all of which can complicate the management of multiple myeloma. Treatment regimens that may be well-tolerated by younger patients may not be suitable for elderly individuals, who may experience more severe side effects, such as myelosuppression, neuropathy, and gastrointestinal issues. As such, the management of multiple myeloma in the elderly involves balancing the potential benefits of therapy with the risks of adverse effects, aiming for a personalized approach that optimizes quality of life while minimizing toxicity [4].

Real-world evidence suggests that proteasome inhibitors, such as bortezomib and carfilzomib, are commonly used in elderly patients, either alone or in combination with other agents like immunomodulatory drugs or corticosteroids. Bortezomib, which is typically administered via subcutaneous or intravenous routes, has been widely used in both newly diagnosed and relapsed multiple myeloma. In elderly patients, the subcutaneous route is often preferred due to its more favorable side effect profile, including a reduced incidence of peripheral neuropathy compared to the intravenous formulation. However, real-world data indicate that bortezomib-related peripheral neuropathy remains a significant concern in elderly patients, particularly in those with pre-existing neuropathy or poor renal function. Carfilzomib, another proteasome inhibitor, has demonstrated activity in elderly patients, with studies suggesting a better side-effect profile in terms of neuropathy [5].

Conclusion

In conclusion, the management of elderly patients with multiple myeloma presents unique challenges that require a personalized, individualized approach. Real-world evidence plays a crucial role in understanding how therapies perform in this patient population and helps inform clinical decisions that balance the benefits of treatment with the risks of adverse effects. The use of novel agents, including proteasome inhibitors and immunomodulatory drugs, has significantly improved survival outcomes for elderly patients. However, careful consideration must be given to the patient's comorbidities, functional status, and treatment tolerability when selecting therapy. As the population of elderly individuals with multiple myeloma continues to grow, ongoing research and real-world data will be essential in optimizing treatment strategies, improving outcomes, and ensuring that elderly patients receive the best possible care.

Acknowledgement

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Conflict of Interest

None.

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