MULTIPLE MYELOMA: ANTIRESORPTIVE THERAPY IN PATIENTS WITH OSSEOTYLYTIC LESIONS AND IMPAIRED RENAL FUNCTION

INTRODUCTION

In multiple myeloma (MM), renal impairment is common and persistent reduction of renal function negatively impacts prognosis. According to DDDH, IMWG and EMM guidelines, patients with MM and osteolytic bone disease should be treated with antiresorptive therapy (ART). Whereas bisphosphonates are challenging in patients with renal impairment, denosumab (RANKL inhibitor), approved in 2018 for prevention of skeletal related events in adults with advanced malignancies involving bone, provides a treatment option with known lower rates of renal complications.

As published by Terpos et al. (2013), in patients with severe renal insufficiency, i.e. creatinine clearance (CCr) <30 mL/min, bisphosphonates are not recommended. Denosumab is a suggested alternative because it is not cleared by the kidneys. However, there are only very limited data in myeloma patients with CCr <30 mL/min (Dimopoulos et al., 2021, supplementary material).

PATIENTS AND METHODS

Between 2017 and 2024, about 2,200 patients with MM starting first (FL), second (SL) or third line (TL) systemic therapy and admitted to 36 hospitals (office-based practices) and followed for a median of 5 years. Patient and disease characteristics, including the presence of osteolytic lesions or renal insufficiency, were documented throughout the observation time. In addition, details on the use of ART are collected. The study was reviewed by ethics committees and registered at clinicaltrials.gov (NCT01136846). Here, we present data on the use of ART with a special focus on patients with renal insufficiency or severe renal insufficiency (i.e. CCr <30 mL/min).

Specific definitions

Normochromic estimated glomerular filtration rate (eGFR) was calculated according to the CKD-EPI formula (Toker et al., 2012) to define the respective creatinine clearance value as documented during the initial hospitalization. The calculation is the method currently recommended by the nephrological society for the GFR in adult patients. Renal function was categorized based on estimated glomerular filtration rate (eGFR) according to the staging of chronic kidney disease (CKD) (KDIGO, 2013):

- Normal renal function: Estimated glomerular filtration rate (eGFR) >90 mL/min/1.73m²
- Impaired renal function: Estimated glomerular filtration rate (eGFR) 60-89 mL/min/1.73m²
- Moderate renal insufficiency: Estimated glomerular filtration rate (eGFR) 30-59 mL/min/1.73m²
- Severe renal insufficiency: Estimated glomerular filtration rate (eGFR) 15-29 mL/min/1.73m²
- Missing: No prior documentation of a prior eGFR value or an eGFR value was too low to be validated.

RESULTS

In total, 1,124 patients had been recruited for first-line treatment, whereas 880 (80%) patients were not planned for stem cell transplantation (non-SCT) and 388 (40%) were scheduled for SCT.

Patients not planned for SCT (non-SCT)

Overall, 38% (n=419/1,090) of patients (non-SCT) had reported osteolytic lesions at baseline, whereas of these patients, 34% (n=144/419) either had moderate (GFR >40 mL/min/1.73m²) or severe (GFR <30 mL/min/1.73m²) renal insufficiency (Figure 2). Basic patient characteristics are displayed in Table 1.

LIMITATIONS

Proportion and type of ART was analyzed regardless of the timing. Thus, ART might have been started during line 1 treatment. For risk analysis, patients were classified as having moderate or severe renal impairment at the start of first-line treatment. This has not been evaluated during the course of disease.

CONCLUSION

MYRIAM provides essential insights into use of antiresorptive therapy (ART) in patients with osteolytic lesions and MM, with or without impaired renal function in daily practice in Germany. Osteolytic lesions were present in nearly 2/3 of patients with MM. Of these, 1/3 were diagnosed with moderate/ severe renal insufficiency.

Antiresorptive therapy is widely used indicating that the majority of patients is treated according to guidelines. Renal function should play an important role in the selection of antiresorptive therapy with currently a substantial proportion of patients with severe renal impairment still being treated with bisphosphonates.