Abstract:
We report our initial clinical experience with $\alpha$-emitting (177)Lu-PSMA-I&T; ((177)Lu labeled prostate specific membrane antigen ligand for imaging and therapy) for systemic treatment of metastatic castration resistant prostate cancer. Patients with metastatic castration resistant prostate cancer who experienced treatment failure with chemotherapy and novel androgen receptor targeted therapy were treated for 8 weeks with up to 4 cycles of (177)Lu-PSMA-I&T;.
We report safety data, the antitumor response with prostate specific antigen decreases and the radiographic tumor response as well as the clinical outcome with changes in ECOG (Eastern Cooperative Oncology Group) performance status and pain severity. The first 3 patients were treated with a lower activity of 3.7 GBq in cycle 1. Due to a favorable safety profile the activity was increased to 7.4 GBq in 19 subsequent patients who completed a total of 40 cycles. With the higher activity no grade 3/4 toxicities were observed. The main nonhematological and hematological grade 1/2 toxicities were dry mouth in 7 patients (37%), anemia in 6 (32%) and thrombopenia in 5 (25%).
proportion of patients who achieved a maximum prostate specific antigen decrease of 30% or greater, 50% or greater and 90% or greater was 56%, 33% and 11%, respectively. Combined assessment of bone and soft tissue metastases showed complete remission in 5% of patients, stable disease in 63% and progressive disease in 32%. ECOG performance status improved or was stable in 74% of patients. Of men with bone pain 58% achieved complete resolution or reduced pain. Radioligand therapy with (177)Lu-PSMA-I&T; appears to be safe and active in heavily pretreated patients with metastatic castration resistant prostate cancer.