

Session F. Genitourinary cancer

F32 Feasibility and efficacy of 223Ra-dichloride (223Ra) to treat bone metastases in patients (pts) with castration resistant prostate cancer (mCRPC)

A. Farnesi¹, S. Mazzarri², G. Boni², L. Galli³, C. Cianci⁴, E. Borso¹⁵, R. Marconcini⁶, E. Biasco⁷, L. Derosa⁷, A. Sbrana⁸, A. Antonuzzo⁹, S. Ricci¹⁰, D. Volterrani², A. Falcone¹⁰

¹U.O. Oncologia Medica, Pisa

²U.O. Medicina Nucleare Azienda Ospedaliera Universitaria Pisana, Pisa

³U.O. Oncologia Medica 1 Azienda Ospedaliera Universitaria Pisana, Pisa

⁴U.O. Oncologia Medica 2 Azienda Ospedaliera Univesitaria Pisana, Pisa

⁵U.O. Medicina Nucleare Ospedale Sant'Andrea, La Spezia

⁶U.O. Oncologia Medica 1 Azienda Ospedaliera Universitaria Pisana, Pisa

⁷U.O. Oncologia Medica 1 Azienda Ospedaliera Universitaria Pisana, Pisa

⁸U.O. Oncologia Medica Azienda Ospedaliera Universitaria Pisana, Pisa

⁹U.O. Oncologia Medica 2 Azienda Ospedaliera Universitaria Pisana, Pisa

¹⁰U.O. Oncologia Medica Azienda Ospedaliere Universitaria Pisana, Pisa

Aim: To share the Tuscany single-centre experience about the employing of the novel therapeutic radiopharmaceutical 223Ra in the treatment planning of mCRPC pts.

Methods: Thirteen pts were treated from August 2013 to date. Five pts have been enrolled in the Bayer EAP and 8 have been treated as routine application. Pts (age

67 ± 8.4 yrs, median PSA 149.5 ng/mL, excluding one case of neuroendocrine differentiation) received 223Ra 50 kBq/kg i.v. on day 1 every 28 days for a maximum of 6 cycles. Pre-treatment evaluations were made using bone scan, and WB-CT in order to exclude visceral metastases. Pts have been evaluated at every cycle with complete blood chemistry (including serum ALP, PSA and LDH), pain VAS score, quality of life questionnaire (FACT-p), and analgesic consumption. The last group of pts started the cure in March 2015.

Results: At the current time-point 13 patients received 72 cycles of 223Ra. No issues in vial manipulation, dose preparation and administration occurred. A multidisciplinary team has followed pts during both screening and treatment period. Only 3 cycles have been delayed (2 due to blood toxicity, 1 due to drug's manufacturing hitches) and 3 pts discontinued the treatment (2 because of non reversible blood toxicity and anorexia, and 1 because of hepatic disease progression). Regarding valuable clinical data, bone marrow toxicity resulted in G3 anemia in 2 pts, G2 neutropenia in 2 pts, and G1 thrombocytopenia in 1 patient. Anorexia G3 occurred in 3 pts, while no case of diarrhoea was observed. Biomarkers response showed median ALP decline of -50% and median LDH decline of -5%. We observed mean PSA decline of -15%. One patient who presented with superscan at baseline received 223Ra 5 cycles before hepatic progression, showing ALP levels decline of -89%, LDH -44% and PSA -48%. According to VAS score and FACT-p, most of pts had bone pain relief and reduced pain drugs intake.

Conclusion: Single-centre experience shows the feasibility and efficacy of therapy with 223Ra in mCRPC pts. Multidisciplinary careful evaluation of bone marrow toxicity and gastrointestinal adverse events must be carried out to optimize individual compliance. Palliative effect allows decreasing pain drugs consume. The mild toxicity could permit the use of 223Ra in combination with other treatments.