P038 Radium 223 in metastatic castration resistant prostate prostate. Effectiveness in clinical practice

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Introduction & Objectives: Radium-223 dichloride is a targeted alpha therapy administered intravenously. It was approved by the FDA in 2013 for castration resistant prostate cancer (CRPC) patients with symptomatic bone metastases and no known visceral metastatic disease. Based on most recent recommendations and patient preferences, the selection of treatment in mCPRC is less toxic treatments first in an effort to minimize the effect of treatment on patient lifestyle and to preserve patient daily function. We report our experience since drug approval in our hospital, with Ra 223 in mCPRC.

Materials & Methods: Between September 2015 and July 2020, 27 patients with mCPRC have been included in this multicenter study. All have completed at least 2 doses of Radium 223, with a mean of 5 doses and a median of 6. Mean age at diagnosis: 67 years (range: 50-81). Since diagnosis, the mean number of months until the application of Radium has been 84 months, median: 72 months, range (14-240). At diagnosis 33% (9 patients) with metastases and 67% (18) without. Of patients without metastases, all had biochemical recurrence with mean: 49 months, median: 27 (range 2-204); and developed bones metastases with mean: 82 months, median:96 (range 206-7). The types were blastic in all patients, and blastic+ nodal in 6% (2). All patients had at least 3 hormonal manipulations, and 4 manipulations in 70% (19 patients). These were addition or withdrawal of antiandrogen, abiraterone (AAB), enzalutamide (ENZ), radium 223 and docetaxel or cabacitaxel.

Results: Radium was administered as third treatment line in 59% (16p), and fourth or fifth in the rest. The main second line treatment was AAB +/- zoledronic acid (60%), followed by antiandrogen (26%) and ENZ + zoledronic (11%). The post-therapy toxicity was moderate-severe: anemia, leukopenia, anorexia and weight loss in 44% of patients, and transfusion in 4 cases. 52% (14) had 0 or G1 toxicity. 29% (8p) did not complete 6 cycles, due to poor tolerance or response. In third-line the mean response (clinical or radiological) was 11 months (median:9), in 4th were 7 and 6, and in fifth were 5 and 6. The mean time of the group of patients who did respond to Radium was 9,9 months (CI 6.28-9.39), median: 10. The mean in the group that did not respond was 3,8 months (CI 6.28-9.39), median: 4. There is no statistical significance between being a responder to Radium and the course (3rd vs 4th), neither between the presence of metastases at diagnosis and the current state (alive vs dead). There is statistical significance in overall survival in patients who respond≥ 4 months to Radium versus <4 months.

Conclusions: Radium 223 treatment is a tool that is added to the new targets in mCRPC treatment in which the greatest benefit is focused on patients who respond > 4 months to radium as the third or fourth line of therapy.