FEASIBILITY OF CARBON ION RADIOTHERAPY FOR THE MELANOMA OF THE LOWER GENITAL TRACT

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Malignant mucosal melanoma (MMM) of the female genital tract is a rare and aggressive disease with a 5-years overall survival of 37-50% for vulvar (VuM), 13-32% for vaginal (VaM) and 10% for cervical melanoma (CM). In the clinical trial of CIRT for gynecological melanoma at NIRS, local control (LC) was promising (3-years-LC: 49.9%) with an acceptable profile of toxicity. The aim of this study is to report our preliminary experience with CIRT in the treatment of gynecological MMMs at the National Center of Oncological Hadrontherapy (CNAO).

Patients and methods

Between January 2016 and September 2018, 9 patients (pts) were admitted for CIRT at CNAO. Pt median age was 65 (range: 52-83). They had 7 VaM, 1 CM and 1 VuM. One patient with VaM had been previously irradiated with photons. GTV ranged from 1.13 to 380.96 cm³ (median: 28.01 cm³). One pt with VaM had been previously irradiated with photons and one pt underwent to adjuvant CIRT on the small pelvic space after radical surgery without lymphadenectomy. Two patients underwent to neoadjuvant and sequential anti-PD-1 immunotherapy. Due to their huge macroscopic diseases, the CM and VuM patients were irradiated with up to a total dose of 28 GyRBE in 3 fractions and 68.8 GyRBE in 16 fractions, respectively, and the CTV was defined as the GTV + uterine cervix and corpus for the CM and GTV + vulva for the VuM. For VaM the small pelvic space including GTV was irradiated with up to a total dose of 38.7-43 GyRBE followed by a GTV boost of up to a total dose of 68.8 GyRBE in 16 fractions. One patient underwent to adjuvant CIRT on the small pelvic space up to a dose of 43 GyRBE after a radical surgery without lymphadenectomy.

Acute and late toxicities were scored according CTCAE 4.0 scale. Time to event data was calculated from the end of CIRT.

Results

Treatment was well tolerated and no interruption was needed. During and at the end of CIRT only a patient experienced G3 erythema and 4 patients grade G1 vaginitis.

Overall, for pts with a follow-u ≥ 3 months, the median LC ranged from 3 to 13 months (< for VuM and CM), the median MFS was 6.5 (range: 3-23) and the median OS was 8.9 (range: 3-31). 3 pts died for systemic progression. Data analysis is still ongoing for the latest enrolled pts.

Radiological response at 8 months

Case of vaginal MMM received CIRT and dose distribution

Conclusions: MMM is a radioresistant tumor, an ideal disease to test the biological efficacy of CIRT. Our preliminary results are encouraging but a longer follow-up and large patient accrual are required and patients should be encouraged to participate in clinical trials.