

was 19.2Gy, 16.5Gy and 19.9Gy in stage 1/2 and 21.8Gy, 24.6Gy and 26.3Gy for stage 3/4. Average bladder D2cc was 46.2Gy, 27.9Gy, and 24.4Gy for stage 1/2, and 31.2Gy, 38.1Gy and 35.8Gy for stage 3/4 (table 2).

	CT		MR		MR+Needles	
	Stage 1/2	Stage 3/4	Stage 1/2	Stage 3/4	Stage 1/2	Stage 3/4
Mean Volume (cc)	56.3 (11.0-102.2)	96.2 (7.0-177.1)	22.5 (2.2-77.7)	44.8 (1.0-107)	28.9	34.2 (2.0-100)
Mean HRCTV D90 (Gy)	20.4 (11.0-30.0)	18.8 (10.0-27.0)	40.4 (21.0-50.0)	29.8 (20.0-39.0)	39	29.6 (20.0-39.0)
Mean Rectal D2cc (Gy)	28.2 (18.0-38.0)	21.8 (11.0-31.0)	34.5 (24.0-44.0)	24.4 (14.0-34.0)	19.9	26.8 (16.0-36.0)
Mean Bladder D2cc (Gy)	46.2 (36.0-56.0)	31.2 (21.0-41.0)	27.9 (17.0-37.0)	24.4 (14.0-34.0)	28.4	25.8 (15.0-35.0)

Table 2. Data distribution by stage and imaging modality. Average values. Range in ()

Conclusion

MR guided BT improves HRCTV dose coverage dramatically. In our cohort average HRCTV D90 increased by more than 20Gy for stage 1/2 and more than 10GY for stage 3/4 disease. Improvements were also seen in the OARs; bladder D2cc more than rectal D2cc. The reduction in bladder dose was largest for stage 1/2 disease. The use of needles allowed similar dose coverage despite a large difference in the HRCTV volume. The benefits of image guided BT with interstitial needles is therefore seen in HRCTV coverage as well as OAR dose. To achieve the EMBRACE2 tolerances, further reductions in OAR doses, especially rectum, are necessary to facilitate an increase in the BT dose fractionation to 28Gy in 4 fractions with EBRT dose at 45Gy in 25 fractions. This will improve with experience or perhaps the use of oblique needles to treat side wall disease more effectively.

EP-1531 Hyperthermia (mEHT) as a radiosensitiser in HIV positive cervical cancer patients: effects/toxicities

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Purpose or Objective

To report on the effects of modulated electro-hyperthermia (mEHT) as a radiosensitiser on toxicity and local disease control in HIV positive cervical cancer patients.

Material and Methods

136 participants were prescribed 50Gy external beam radiation, 3 doses of 8Gy high dose rate brachytherapy and cisplatin as a radiosensitiser. Participants were randomised, based on HIV status, FIGO stage of disease, and age, into a control group or study group. The study group received 10 mEHT treatments plus the prescribed chemoradiotherapy regime. Each mEHT treatment was 55 minutes at a target power of 130W. HIV positive participants must have been on antiretroviral treatment for a minimum of 6 months and have a CD4 count of above 200cells/mm³. Participants with bilateral hydronephrosis and a creatinine clearance below

positive. Complete response (CR) rates are as follows: HIV positive study: 67%; HIV negative study: 54%; HIV positive control: 57%; HIV negative control: 37%. 6 month survival in the HIV positive and negative study groups are 89% and 100% respectively, and in the HIV positive and negative control groups survival was 84% and 87.5% respectively.

The frequency of grade 4 toxicities on treatment was higher in the HIV positive groups compared to the HIV negative groups. However the frequency of grade 3 toxicities was highest in the HIV negative control group. The most common toxicity was bladder. 1 Grade 3 skin toxicity was reported in both HIV positive groups and 1 in the HIV negative control group.

At 3 months, skin and bladder toxicity was higher in the HIV positive study group than the HIV negative study group, with 2 grade 4 bladder toxicities in the HIV positive study group. The HIV negative control group reported the highest frequency of bladder toxicities: 3 grade 3 and 4 grade 4 toxicities. There were no grade 3 or 4 lower GI/rectal toxicities in the study group and 2 grade 4 toxicities in both control groups (HIV negative and positive).

Conclusion

Early results do not show an obvious pattern/relationship in the frequency/severity of toxicities in the HIV positive groups compared to the HIV negative groups, irrespective of the administration of mEHT. Overall the local disease control is improved in the study group. There is a higher CR rate in HIV positive groups of each arm. The 6 month survival does not show the same pattern of improvement in the HIV positive groups. Survival at 6 months is higher in the study group. The significance of this will be confirmed in a larger sample and longer follow up.

EP-1532 HIV and Cervical Cancer, dangerous combination for RT patients

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Purpose or Objective

The association between cervical cancer and HIV is well known, being one of the defining conditions of AIDS, and one of the most common neoplasms related to this disease.

In addition, the evolution of HIV disease and response to treatment seems to be modified in this group of patients, having the tumor a more aggressive behavior and worse prognosis compared to non-HIV population.

Objective: Describe evolution of HIV patients with cervical cancer treated with radiotherapy in our center.

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