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Chemoradiation in hiv positive patients with FIGO stage IIIB cancer of the uterine cervix

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Background and Purpose: Invasive cancer of the uterine cervix is the most common cancer and the leading cause of cancer-related mortality among Zimbabwean black female population. A high HIV prevalence of 43.5% has been reported among our cervical cancer patients in an unpublished retrospective study. HIV positive population tends to present with cancers at a younger age with more advanced disease and have tendency to poor tolerance to treatment and poor treatment outcome. Various randomized controlled trials conducted in the developed world confirmed chemoradiation as the gold standard treatment for locally advanced cervical cancer. There is however paucity of data on how these patients fare on treatment in a resource limited environment with a background of high HIV prevalence. The purpose of this study was to document the treatment tolerability and outcomes for HIV positive patients within the FIGO IIIB cervical cancer group.

Material and Methods: A retrospective study of a cohort of HIV positive patients with histologically confirmed invasive cancer of the uterine cervix FIGO IIIB referred to Parirenyatwa Central Hospital Radiotherapy and Oncology Centre (PGHRTC) from 1 January 2013 to 31 December 2014 was carried out. Study subjects' records were reviewed and data collected with regards to patient's and disease characteristics, mode and dose of radiotherapy given, number of chemotherapy cycles received, adverse events reported during treatment, number of unplanned hospital admissions and breaks during treatment, whether treatment was completed or not and response to treatment at 3 months post treatment review. Epi-info version 3.5.1 and Stata version 12.1 statistical packages were used to analyse the data.

Results: 128 patients with FIGO IIIB cervical cancer received chemoradiation during the study period. The patients' ages were normally distributed, with a mean age of 50.8 ± 10.3sd years. HIV status was documented in 124 patients. 65/124(51%) patients were HIV positive and 64/65(98.5%) patients on were on HAART. Younger patients dominated the HIV positive group with a mean age of 45.4 ± 8.5sd years. 59/65 (91%) of HIV positive patients had documented baseline CD4 counts with a mean of 526 ± 233(sd) cells/mm³, a median of 534 $cells/mm^3 and a range of 155-1099 cells/mm^3. 27/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64/65 (45.8\%) patients had a CD4 count < 500 cells/mm^3. 64$ (98.5%) were on HAART. HIV positive patients had slightly bigger tumours even though there was marked overlap. All patients received chemoradiation with curative intent. Only 37/128 (29%) of patients received ≥4cycles of chemotherapy during treatment, 28 of these were HIV positive. A higher proportion of the HIV positive patients (43%) received ≥4cycles of chemotherapy compared to the HIV negative ones. None of the patients was able to complete 6 cycles, the most cited reasons being financial(44.44%), neutropenia(20.20%) and renal impairment(13.79%).Treatment side effects contributed only 3.4% to the reasons for unscheduled treatment breaks. Overally treatment was tolerated very well regardless of HIV status or disease extent. 183/1035 (18%) recorded toxicities were grade3-4, 50% of these were recorded in HIV positive patients. 10/14 (71.4%) patients who had grade 3-4 haematological tocities were HIV positive. 127/128 patients completed chemoradiation. All the 65 HIV positive patients completed treatment. Higher proportion of patients achieving complete tumor response at 3 months were noted in the those with following characteristics: age \ge 45years, pretreatment Hb ≥ 10g/dl, HIV negative, HIV positive with CD4+ ≥ 500 cells/mm³, Tumor size <7cm in greatest dimension, No hydronephrosis, no lower third vaginal involvement, squamous cell carcinoma histological type, poorly differentiated histology, received \geq 4cycles of chemotherapy and no treatment breaks during chemoradiation.

Conclusion: The study revealed that chemoradiation is well tolerated in HIV positive patients receiving chemoradiation fo FIGO stage IIIB cancer of the uterine cervix though with a high risk for grade3-4 haema-tological toxicities. Good HIV control, using CD4 as a surrogate, was associated with better tumor response.

Response to treatment, however, vary among these patients depending on various factors which include patient characteristics, disease characteristics and treatment factors. A follow-up prospective study on chemoradiation in this group of patients is recommended.

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