Delays In Cervical Cancer Treatment Initiation For Patients Living With Or Without HIV In Botswana 2015-2019

Jessica George[1], Shawna Tuli[1], Palak Patel[2], Barati Monare[3], Lisa Bazzett-Matabele[4,5], Peter Vuylsteke[6,7], Katharine A. Rendle[8], and Surbhi Grover[3,9]

[1]Donald Bren School of Information and Computer Sciences, University of California, Irvine, Irvine, CA; [2]Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [3]Botswana-University of Pennsylvania Partnership, Gaborone, Botswana; [4]Department of Obstetrics & Gynecology, University of Botswana, Gaborone, Botswana; [5]Department of Obstetrics and Gynecology, Yale University School of Medicine, New Haven, CT; [6]CHU Namur, Site Sainte-Elisabeth, UCLouvain, Namur, Belgium; [7]Department of Internal Medicine, University of Botswana, Gaborone, Botswana; [8]Department of Family Medicine & Community Health, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA; [9]Department of Radiation Oncology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA

BACKGROUND:

- Between 2015-2019, women with locally advanced cervical cancer disease (stages IB2-IVB), with or without HIV, in Botswana were prospectively enrolled in an observational cohort study.
- Here, we present delays in treatment initiation for those patients who were treated with curative intent chemoradiation or radiation therapy (CRT/RT) by HIV status.

METHODS:

- Of the 949 cervical cancer patients, 686 (72.3%) were stage IB2+ and had a known treatment initiation date.
- Of these 686 patients, we excluded patients who received definitive or palliative treatment (n=281) or had unknown treatment intent (n=297), resulting in 108 patients who received curative intent CRT/RT.
- We calculated the number of days between the date of pathology review and the date of treatment start, and categorized delays as 90 or greater days.
- Associations with delays in treatment initiation and with 24-month survival from treatment initiation were evaluated via logistic regression modeling.

Demographic and clinical characteristics of cervical cancer patients who received curative intent chemoradiation or radiation therapy

Characteristic	Overall n=108 (100%)
Age (years)	46 (39-58.3)
HIV status	
Negative	40 (37%)
Positive	68 (63%)
Disease stage	
I (IB2, IB3)	16 (14.8%)
II (IIA, IIB)	57 (52.8%)
III (IIIA, IIIB, IIIC1)	31 (28.7%)
IV (IVA, IVB)	4 (3.7%)
CD4 (cells/μL)	364.6 (170-591)
Detectable viral load	9 (8.3%)
Treatment	
Radiation therapy	12 (11.1%)
Chemoradiation	96 (88.9%)
Delay in treatment initiation ≥90 days	46 (42.6%)

Factors associated with delays in treatment initiation ≥90 days in cervical cancer patients who received curative intent chemoradiation or radiation therapy: MVA

Characteristic	OR (95% CI)	p
Age (years)		
21-39	1 (ref)	--
40-59	0.56 (0.2-1.53)	0.3
60+	1.2 (0.29-5.08)	0.8
Distance (km)		
<100	1 (ref)	--
100-500	2.78 (1.13-7.12)	**0.028**
>500	1.05 (0.17-5.48)	>0.9
HIV status		
Negative	1 (ref)	--
Positive	1.34 (0.45-4.09)	0.6
Disease stage		
I	1 (ref)	--
II	0.54 (0.15-1.86)	0.3
III	0.21 (0.05-0.85)	**0.031**
IV	0.86 (0.07-10.1)	>0.9
Pathology year		
Before 2016	1 (ref)	--
2016-2017	0.67 (0.18-2.55)	0.5
2018-2019	1.13 (0.31-4.22)	0.9

Factors associated with 24-month survival after treatment initiation in cervical cancer patients who received curative intent chemoradiation or radiation therapy: MVA

Characteristic	OR (95% CI)	p
Age (years)		
21-39	1 (ref)	--
40-59	1.41 (0.4-4.86)	0.6
60+	0.92 (0.15-5.63)	>0.9
HIV status		
Negative	1 (ref)	--
Positive	0.51 (0.12-1.98)	0.3
Disease stage		
I-II	1 (ref)	--
III-IV	0.4 (0.01-16.7)	0.6
EQD2 (Gy)		
<65	1 (ref)	--
≥65	7.08 (1.4-44.8)	**0.023**
Chemotherapy received (cycles)		
0	1 (ref)	--
≥1	1.39 (0.09-16.2)	0.8
Delay in treatment initiation (days)		
<90	1 (ref)	--
≥90	0.28 (0.09-0.81	**0.024**

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RESULTS:

- Among the 108 curative patients with locally advanced cervical cancer disease, 68 (63%) were women living with HIV.
- Slightly less than half (42.6%) of patients experienced delays in treatment initiation of ≥90 days.
- Patents with stage III disease were less likely to experience delays in treatment initiation compared to stage I disease.
- Patients were less likely to survive 24 months after treatment initiation if they experienced delays in treatment initiation of ≥90 days.

CONCLUSIONS:

- Our results indicate that delays in care for patients with cervical cancer in Botswana are common, particularly for those living further away from the centralized treatment clinic, and are less common for those with advanced stages of cervical cancer disease.
- Furthermore, our paper is the first to show an association between delays and decreased survival at 24 months.
- Future interventions should aim to reduce delays in treatment initiation by focusing on patients who live further away from the treatment clinic and initiating timely treatment for stage I and II cervical cancer disease.