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The Outcome of Concurrent Chemoradiation with Cisplatin versus Capecitabine in Locally Advanced Cervical Cancer: A Prospective Quasi Experimental Study

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Abstract **Original Research Article**

Background: Cervical cancer is the primary cause of cancer death in women in Bangladesh and other underdeveloped nations. The globe is now searching for the best therapy for locally progressed squamous cell carcinoma of the cervix. ***Objective:*** To compare the effectiveness of concurrent chemoradiation with cisplatin and capecitabine in locoregionally advanced carcinoma cervix. ***Methods:*** A quasi experimental study was carried out among 60 patients of locally advanced squamous cell carcinoma of cervix at Radiation Oncology Department of National Institute of Cancer Research & Hospital, Dhaka from July 2016 to June 2017. Patients were accrued to arm A and arm B purposively to receive inj. cisplatin 40 mg/m2 IV infusion weekly and capecitabine, 825 mg/m2 twice daily 5 days a week along with external-beam radiotherapy and intracavitary brachytherapy respectively. ***Results:*** The study was designed to compare the effectiveness of concurrent chemoradiation with cisplatin and capecitabine in locoregionally advanced carcinoma cervix. The mean age of the arm A patients was 47.43 (SD ± 6.11) years and that of the arm B patients was 48.2 (SD ± 5.78) years. Almost identical numbers of patients in both arms had shown complete responses (CR) (arm A 76.7% and arm B 80%), partial responses (PR) (arm A 13.3% and arm B 10%), stable diseases (SD) (3.3%) and progressive diseases (PD). Frequency of toxicities related to treatment was significantly less pronounced in capecitabine arm than cisplatin arm. ***Conclusion:*** Uterine cervix, capecitabine-based concurrent chemo radiation was not inferior to weekly cisplatin- based concurrent chemo radiation in terms of ultimate result. More critically, capecitabine's toxicity was less severe than cisplatin's. Because of this, using them together may be an effective therapy strategy. However, capecitabine is well tolerated and has a low harmful effect.

Keywords: Concurrent Chemo radiation, Cisplatin, Capecitabine, Cervical Cancer, Outcome.

INTRODUCTION

A projected 570,000 new cases, or 6.6% of all female malignancies, were reported in 2018, making cervical cancer the fourth most common malignancy in women, according to the World Health Organization. In low- and middle- income nations, cervical cancer fatalities accounted for almost 90% of all cases [1]. In Bangladesh, it's the second most common kind of female malignancy. It's the 4th leading cause of cancer mortality in women (266,000 in 2012) [2]. Cervical cancer is a major source of death and morbidity worldwide, yet there are local variations. According to the National Cancer Institute's (NCI) Surveillance Epidemiology and End Results (SEER) cancer data, 12900 women were diagnosed with carcinoma cervix and 4100 died of the condition in 2015 [3].In Bangladesh, cervical cancer is frequent. Bangladesh lacks a national cancer registry, hence cervical cancer incidence and prevalence are unknown. According to data released in Bangladesh, cervical cancer is a big problem here [4]. In 2014, 18556 new patients visited the Out Patient Department (OPD) of the National Institute of Cancer Research and Hospital (NICRH), according to the latest Hospital based cancer registry report (HBCR) released online in December 2015 by NICRH. 11108 (59.9%) had confirmed or tentative cancer diagnoses in the study. 17.9% of 4983 female patients had cervical cancer [5]. Carcinoma cervix is the second most frequent female malignancy at NICRH. Mean age of cervical cancer patients was 48.71 (11.63),

with 33.2% in the 45-54 age range. Most cervical cancer patients were married (97.8%). One-third of cervical cancer patients were grand multipara. Squamous cell carcinoma (91.1%) and adenocarcinoma (8.2%) predominated [5]. HPV infection causes more cervical cancer. HPV causes most cervical cancers. 70% of patients had HPV-16 & -18 [6]. Early women who have sex, have several sex partners, or have children young are at danger. Cigarette smoking, long-term oral contraceptive usage and HIV infection are additional cervical cancer risk factors [7]. Metrorrhagia, menorrhagia, postcoital bleeding, and postmenopausal bleeding are frequent cervical cancer symptoms. Chronic bleeding may cause anemia. In severe instances, pelvic sidewall illness may cause bowel obstruction, renal failure, foul-smelling serosanguinous or yellowish vaginal discharge, pelvic discomfort, flank pain, rectal hemorrhage, constipation, dysuria, hematuria, or chronic lower extremity edema. Squamous cell carcinoma is 90% of cervical malignancies. 7-8% is adenocarcinoma [8]. Big cell keratinizing, large cell non-keratinizing, and small cell carcinomas are squamous neoplasm subtypes. Pure or mixed invasive adenocarcinoma may occur (adenosquamous carcinoma). Most cervical adenocarcinomas are endocervical [7]. Preinvasive cervical intraepithelial neoplasia (CIN) advances slowly to invasive cancer, and asymptomatic women with frequent pap smears may detect the curable phase. In Bangladesh, screening services for asymptomatic women are few. Most developing-world patients have advanced illness. Locally advanced cervical cancer patients had a greater recurrence risk and worse survival [9]. FIGO is the most extensively used cervical cancer staging system. Cervical cancer is split into four clinical stages: microinvasive (stage IA1), early invasive (stage IA2 IB1, some modest level IIA), locoregionally progressed (stage IB2-IVA), and metastatic (stage IVB) [10]. FIGO stages IB2, IIB-IVA are localized. Locally advanced cervical cancer is defined by tumor confined to cervix with a clinically visible tumor > 4cm (stage IB2), tumor invades beyond uterus but not to pelvic sidewall or to lower third of vagina (stage II), tumor extends to pelvic sidewall and/or causes hydronephrosis or a nonfunctioning kidney (stage III), or tumor invades the bladder or rectum mucosa, or extends beyond the true pelvis (stage IVA). Locally advanced cervical cancer patients had a greater recurrence risk and worse survival. FIGO stages IIB, IIIB, and IVA have 5-year survival rates of 65% to 75%, 35% to 50%, and 15% to 20% .Most patients with advanced cervical cancer get radical radiotherapy (inoperable). Radiation treatment combines external beam and intracavitary brachytherapy [7]. Radiotherapy may follow chemotherapy or be delivered simultaneously. Locally advanced cervical cancer requires multimodal therapy.CCRT with cisplatin-based chemotherapy followed by brachytherapy is routine for locally advanced cervical cancer. Managing cisplatin's toxicity is complicated. So, scientists are looking for less hazardous, non-inferior compounds. In certain centers, capecitabin replaces cisplatin. The former is considered less harmful. This research aimed to examine the clinical result and toxicity profile of concurrent chemoradiation with cisplatin and capecitabine for locally advanced cervical cancer (stage IIB- IVA).

OBJECTIVE

- To compare the effectiveness of concurrent chemoradiation with cisplatin and capecitabine in locoregionally advanced carcinoma cervix.

METHODS

This propspective quasi experimental study was carried out among 60 patients of locally advanced squamous cell carcinoma of cervix at Radiation Oncology Department of National Institute of Cancer Research & Hospital, Dhaka from July 2016 to June 2017. Purposive sampling technique was used in this study. Samples were selected through inclusion and exclusion method from the patients who are histologically proven squamous cell carcinomas of cervix. Those who gave informed written consent were finally enrolled in the study.Patients were accrued to arm A and arm B purposively to receive inj. cisplatin 40 mg/m2 IV infusion weekly and capecitabine, 825 mg/m2 twice daily 5 days a week along with external-beam radiotherapy and intracavitary brachytherapy respectively.

Inclusion Criteria

1. Clinically diagnosed and histopathologically proved squamous cell carcinoma of uterine cervix.
2. All patients diagnosed as locally advanced carcinoma of uterine cervix clinical stage (FIGO) II B to IVA cervical cancer.
3. At least one measurable lesion, no prior chemotherapy, radiotherapy or total hysterectomy
4. Patients were required to have ECOG performance status up to scale 2.
5. Patient without distant metastasis and without obstructive feature.
6. Age not more than 70 years & not less than 18 years.

Minimum Laboratory Criteria Required to Include

- Hemoglobin should be more than 10 gm/dl or more than 60%.
- An absolute WBC count more than or equal to 4000cell/cmm
- Platelet count more than or equal to100000cell/cmm.
- Billirubin level should be equal to or less than 1.5mg/dl.
- SGPT level not more than 4 times of the upper limit
- Serum creatinine level should be equal to or less than 1.5.

- Blood urea level less than 50 mg/d.

Exclusion Criteria

1. Pregnant or lactating woman.
2. Patient dropped out or lost to follow up before completion of study.
3. Serious concomitant medical illness including severe heart disease, uncontrolled diabetes mellitus or hypertension
4. Life expectancy < 6 months.
5. Patient with uncontrolled infection.
6. Diagnosed case of cervical cancer other than squamous cell carcinoma of cervix.
7. Prior pelvic radiotherapy with brachytherapy.

Data Collection and Analysis

A semi structured questionnaire was prepared after pre-testing containing patient profile. This was used for collection of information by interviewing & examining patients & their reports. Data were collected for about one year. An interview usually lasted for an hour. The entire selected patients were interviewed for detailed history. Hospital documents were used as well. After cleaning and editing, all the relevant data were compiled on a master chart. Statistical analysis of the results was obtained by SPSS for Windows (IBM SPSS Statistics for Windows, version 19.0, Armonk, NY, IBM Corp.). Continuous data were expressed as mean ± SD and were compared by Student "t" test. Categorical data were expressed as number and percentage and were compared via the Chi-squared test and Fischer's exact tests. Two tailed $p<0.05$ was considered as significant.

RESULTS

This quasi-experimental research compared concurrent chemoradiation with cisplatin and capecitabine in advanced cervical cancer. 30 patients in arm A (Cisplatin with concomitant EBRT) and 30 in arm B (Capecitabine with concurrent EBRT).

Figure 1 shows the age distribution of the carcinoma cervix patients. The mean age of the arm A patients was 47.43 (SD ± 6.11) years and that of the arm B patients was 48.2 (SD ± 5.78) years. No significant difference was observed between these two groups (t=-0.499 (df =58) p=0.620)

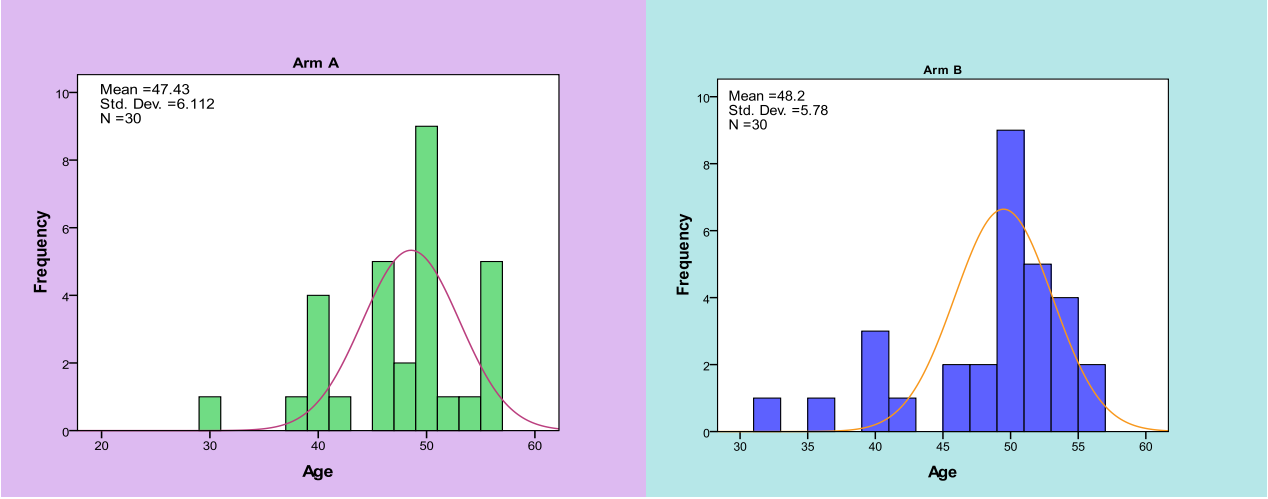

Figure 1: Histogram showing age distribution of the patients

Table I shows the age distribution of the patients. The patients were divided into four age groups and their age ranged from 30 to 56 years in arm A. Maximum numbers (18, 60 %) were found in the age group of 46-55 years. Second leading numbers of patients were found in 36-45 years age group (10, 33.3%). And in arm Bpatients age ranged from 32 to 57 years. Maximum numbers (23, 76.7%) were found in the age group of 46-55 years. Second leading numbers of patients were found in 36-45 years age group (5, 16.7%).

Table I: Age group distribution of the patients

Age group (Years)	Arm A (n=30)		Range (Years)	Arm B (n=30)		Range (Years)
	Frequency	Percentage		Frequency	Percentage	
<=35	1	3.3	30-56	1	3.3	32-57
36-45	10	33.3		5	16.7	
46-55	18	60.0		23	76.7	
=>56	1	3.3		1	3.3	
Total	**30**	**100.0**		**30**	**100.0**	

Table II shows the distribution of the subjects by FIGO stage of disease. It was noted that most of the patients (arm A 53.3% and arm B 73.3%) were in stage IIB. The second leading stage was IIIB (arm A 30% and arm B 20%). However, no statistical significance was observed between arms in respect to stage (p>0.05).

Table II: Distribution of the patients by stage at diagnosis

FIGO stage at diagnosis	Category of treatment		Fisher's Exact Test	*p*-value
	Cisplatin plus EBRT (Arm A)	Capecitabine plus EBRT (Arm B)		
IIB	16 (53.3)	22 (73.3)	4.784	0.171
IIIA	03 (10.0)	01 (3.3)		
IIIB	09 (30.0)	06 (20.0)		
IVA	02 (6.7)	01 (3.3)		
Total	30 (100.0)	30 (100.0)		

Distribution of the patients by physical findings before treatment is given in the above table (Table III). Cervical growths were present in all patients of both arms. Next leading finding was per vaginal bleeding (arm A 26, arm B 23). Pelvic infection was noted in 12 & 17 patients in arm A & B respectively. However, most of the patients in both groups exhibited more than one finding. Growth and P/V bleeding were noted in 26 & 23 patients in arm A and arm B respectively. Growth and infection were found in 12 and 17 patients in both arms respectively.

Table III: Distribution of the patients by physical findings before treatment

Physical findings	Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)	
	n	(%)	n	(%)
Cervical growth	30	100.0	30	100.0
P/V bleeding	26	86.7	23	76.7
Pelvic infection	12	40.0	17	56.7
Growth and P/V bleeding	26	86.7	23	76.7
Growth and infection	12	40.0	17	56.7
Growth, P/V bleeding & infection	12	40.0	17	56.7

Distribution of the patients by physical findings after six weeks of starting treatment is given in the below table. Cervical growth dramatically reduced to only six patients in each arm. Per vaginal bleeding (arm A 4, arm B 3) and pelvic infection (arm A 9, arm B 7) also reduced considerably. Patients with multiple findings also reduced in both arms.

Table IV: Distribution of the patients by physical findings after 6 weeks

Physical findings	Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)	
	n	(%)	n	(%)
Cervical growth	6	20.0	6	20.0
P/V bleeding	4	13.3	3	10.0
Pelvic infection	9	30.0	7	23.3
Growth and P/V bleeding	4	13.3	3	10.0
Growth and infection	9	30.0	7	23.3
Growth, P/V bleeding & infection	9	30.0	7	23.3

Distribution of the patients by physical findings after one month of completion treatment is given in the below table. Cervical growth disappeared from most of the patients in both arms and could be found in only three patients in each arm. Per vaginal bleeding and pelvic infection were almost gone. The number of multiple findings also reduced.

Distribution of the patients by physical findings after three month of completion treatment is given in the below table. Like previous finding, at this stage cervical growth was present in only three patients in each arm. Per vaginal bleeding and pelvic infection were almost gone. The number of multiple findings roughly remained constant in both arms.

Table V: Distribution of the patients by physical findings after one month of completion of treatment

Physical findings	Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)	
	n	(%)	n	(%)
Cervical growth	3	10.0	3	10.0
P/V bleeding	1	3.3	0	0.0
Pelvic infection	2	6.7	1	3.3
Growth and P/V bleeding	1	3.3	0	0.0
Growth and infection	2	6.7	1	3.3
Growth, P/V bleeding & infection	3	10.0	3	10.0

Table VI: Distribution of the patients by physical findings after three month of completion of treatment

Physical findings	Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)	
	n	(%)	n	(%)
Cervical growth	3	10.0	3	10.0
P/V bleeding	2	6.7	0	0.0
Pelvic infection	1	3.3	1	3.3
Growth and P/V bleeding	2	6.7	0	0.0
Growth and infection	2	6.7	1	3.3
Growth, P/V bleeding & infection	3	10.0	3	10.0

ECOG performance statuses are compared in three different periods of time in the Table VII. Before starting of the treatment 21 (70%) patients in arm A and 25 (83.3%) patients in arm B had shown ECOG performance statuses 1. After completion of treatment 25 (83.3%) patients in arm A and 18 (60%) patients in arm B had shown ECOG performance statuses 1 while three and two patients exhibited ECOG performance statuses 2 in two arms respectively**.**

Table VII: Distribution of the patients by ECOG performance status

ECOG performance status		Cisplatin plus EBRT (Arm A)		Capecitabineplus EBRT (Arm B)		*p*-value
		n	%	n	%	
Before of treatment	0	09	30.0	05	16.7	0.222
	1	21	70.0	25	83.3	
After completion of treatment	0	02	6.7	10	33.3	0.035
	1	25	83.3	18	60.0	
	2	03	10.0	02	6.7	
After 3 months of treatment completion	0	27	90.0	28	93.3	0.640
	1	03	10.0	02	6.7	

Nausea & vomiting are compared in six different periods of time in the Table XI. At the end of 1st week of treatment 27 (90%) patients in arm A and all 30 patients in arm B had shown grade 1 nausea & vomiting toxicity. At 3rd week of treatment a large numbers of patients in arm A (25, 83.3%) had shown grade 3 & 4 such toxicity. This trend was also noted at 6th week of treatment. Here arm A patients only experienced grade 3 & grade 4 toxicities. There were 26 (86.7%) patients with grade 3 and four patients (13.3%) with grade 4 nausea & vomiting toxicity. In arm B most patients (26, 86.7%) had shown grade 1 such toxicity. After 1 month of treatment completion, in arm A only two patients (6.7%) had shown grade 1 such toxicity. In next all successive follow-ups all patients in both arms had shown grade 0 diarrhoea toxicity.

Diarrhea is compared in six different periods of time in the Table IX. At the end of 1st week of treatment all the patients in both arms had shown grade 1 diarrhoea toxicity. At 3rd week of treatment slightly more patients in arm A (13, 43.3%) had shown grade 2 diarrhoea toxicity than arm B patients (9, 30%). At 6th week of treatment there were 22 (73.3%) arm A patients and 25 (83.3%) arm B patients with grade 2 diarrhoea toxicity. In next all successive follow-ups all patients in both arm had shown grade 1 diarrhoea toxicity.

Table VIII: Distribution of the patients by nausea and vomiting toxicity

Nausea and vomiting toxicity		Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)		*p*-value
		n	%	n	%	
1st week of treatment	Grade 0	03	10.0	30	100.0	0.043
	Grade 1	27	90.0	0	0.0	
3rd week of treatment	Grade 0	0	0.0	6	20.0	0.039
	Grade 1	0	0.0	21	70.0	
	Grade 2	5	16.7	3	10.0	
	Grade 3	23	76.6	0	0.0	
	Grade 4	2	6.7	0	0.0	
6th week of treatment	Grade 0	0	0.0	1	3.3	0.002
	Grade 1	0	0.0	26	86.7	
	Grade 2	0	0.0	3	10.0	
	Grade 3	26	86.7	0	0.0	
	Grade 4	4	13.3	0	0.0	
After 1 month of treatment completion	Grade 0	28	94.3	30	100.0	0.641
	Grade 1	2	6.7	0	0.0	
After 3 months of treatment completion	Grade 0	30	100.0	30	100.0	-
After 6 months of treatment completion	Grade 0	30	100.0	30	100.0	-

Table X: Distribution of the patients by diarrhoea

Diarrhea		Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)		*p*-value
		n	%	n	%	
1st week of treatment	Grade 1	30	100.0	30	100.0	-
3rd week of treatment	Grade 1	17	56.7	21	70.0	0.284
	Grade 2	13	43.3	9	30.0	
6th week of treatment	Grade 1	8	26.7	5	16.7	0.347
	Grade 2	22	73.3	25	83.3	
After 1 month of treatment completion	Grade 1	30	100.0	30	100.0	-
After 3 months of treatment completion	Grade 1	30	100.0	30	100.0	-
After 6 months of treatment completion	Grade 1	30	100.0	30	100.0	-

Distributions of the patients by other toxicities are present in the below table. No patient was found with neutropenia in both arms. Nephrotoxicy was present in two patients in arm A but in arm B none experienced the same. Ototoxicity was reported in four (13.3%) patients in arm A. Hand foot syndrome was noted in two (6.7%) patients of arm B.

Table XI: Distributions of the patients by other toxicities

Toxicities	Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)		*p*-value
	n	%	n	%	
Neutropenia					
Absent	30	100.0	30	100.0	-
Nephrotoxicity					
Present	2	6.7	0	0.0	0.554
Absent	28	93.3	30	100.0	
Ototoxicity					
Present	4	13.3	0	0.0	0.553
Absent	26	86.7	30	100.0	
Hand foot syndrome					
Present	0	0.0	2	6.7	0.554
Absent	30	100.0	28	93.3	

Summary of post treatment responses is shown in the below table. Almost identical numbers of patients in both arms had shown complete responses (CR) (arm A 76.7% and arm B 80%), partial responses (PR) (arm A 13.3% and arm B 10%), stable diseases (SD) (3.3%) anprogressive diseases (PD) (6.7).

Table XII: Distributions of the patients by post treatment response

Status at last follow-up	Cisplatin plus EBRT (Arm A)		Capecitabine plus EBRT (Arm B)		*p*-value
	n	%	n	%	
CR	23	76.7	24	80.0	1.00
PR	4	13.3	3	10.0	
SD	1	3.3	1	3.3	
PD	2	6.7	2	6.7	
Total	**30**	**100.0**	**30**	**100.0**	

DISCUSSION

Cervical cancer is frequent in Bangladesh. Middle-aged women are particularly affected. Every day, researchers uncover new oncology facts and understanding. Despite advances in cancer science and therapeutic management, illness stays unchanged. Early cervical cancer may be treated with surgery or radiation, with similar outcomes [11]. In randomized clinical studies, concurrent chemotherapy was useful for patients [12-15]. Some studies showed a 43–46% decrease in recurrence and mortality. The NCCN Guidelinespropose pelvic radiation with concomitant cisplatin- containing chemotherapy and brachytherapy for advanced cervical cancer [15]. A recent meta-analysis of 18 RCTs found that chemoradiotherapy had a greater 3- and 5-year survival rate than radiation alone, with similar side effects [16]. Chemoradiotherapy is routine for advanced cervical cancer. Patients commonly struggle with chemotherapy's effects. Due to harmful consequences, several patients stopped cisplatin-based treatment. The sickness becomes uncontrollable.

This quasi-experimental research compared concurrent chemoradiation with cisplatin and capecitabine in advanced cervical cancer. Arm A patients received cisplatin 40 mg/m2 IV infusion on the first day of each treatment week during external-beam radiation (50 Gy in 25 daily fractions over five weeks) followed by three intracavitary brachytherapy insertions each 700 cGy. Patients with arm B cervical carcinoma received 825 mg/m^2 twice daily (Monday-Friday) capecitabine during external-beam radiation (50 Gy in 25 daily fractions over five weeks) followed by three intracavitary brachytherapy insertions each 700cGy. The study's conclusions are analyzed based on relevant past research. Early marriage, oral contraceptive pill usage, multiparity, poor economic position, lack of education, and early age of intercourse are risk factors in senior patients, according to worldwide research [17-19]. The current research found that most individuals were middle-class. Most research participants had basic schooling. Position of the uterus and tumor spread into neighboring tissues hinder clean surgical margins. Brachytherapy is mainly used to treat stage IIB-IVA cervical cancer. 45 Most patients (53.3% arm A, 73.3% arm B) were at stage IIB. IIIB (arm A 30%, arm B 20%) was second. No stage-related statistical significance was found (p>0.05).Early cervical cancer may be asymptomatic, according to Tewari *et al.*, Post-coital bleeding, vaginal bleeding, or a vaginal mass may suggest cancer. Cervical cancer symptoms include sexual discomfort and vaginal discharge [19]. Loss of appetite, weight loss, weariness, pelvic discomfort, back pain, leg pain, swollen legs, excessive vaginal bleeding, bone fractures, and vaginal leaks are symptoms of advanced cervical cancer. The research found support. Both arms had cervical growths. Next, vaginal bleeding (arm A 26, arm B 23). 12 & 17 patients in A & B had pelvic infections. In both groups, most patients had multiple findings. One month following therapy, only three patients in each arm had cervical growth. Bleeding and infection were virtually gone. Multiple discoveries fell. After three months, very comparable results were seen. Before therapy, 21 (70%) arm A patients and 25 (83.3%) arm B patients had ECOG performance status 1. After therapy, 25 (83.3%) patients in arm A and 18 (60%) patients in arm B had ECOG performance levels 1, whereas three and two patients had categories 2.Current research compares nausea and vomiting toxicities throughout six time periods. 27 (90%) patients in arm A and all 30 patients in arm B developed grade 1 nausea & vomiting toxicity after 1 week of therapy. At 3rd week of therapy, capecitabine had less grade 3 & 4 effects. This pattern was seen at 6 weeks. Only two arm A patients (6.7%) exhibited grade 1 toxicity after 1 month of therapy. All further follow-ups showed grade 0 diarrhoea toxicity in both groups. At 3 weeks, somewhat more arm A (13, 43.3%) patients experienced grade 2 diarrhoea toxicity than arm B (9, 30%). Only arm A patients had nephrotoxicity and ototoxicity. Almost comparable percentages of patients in both groups had full responses (76.7% and 80%), partial responses (13.3% and 10%), stable illnesses (3.3%), and progressing disorders. Locally advanced cervical carcinoma is well-treated with capecitabine chemoradiotherapy. Similar to cisplatin- based chemoradiotherapy. Domingo *et al.*, found 76% PFS at 23 months in a phase II study. 24-month PFS in GOG 120 was 67% [20]. Capecitabine chemoradiotherapy

has an excellent safety profile, with no renal damage and no grade 3 or 4 nausea and vomiting. Outpatient administration makes the therapy straightforward and convenient for patients [21].

CONCLUSION

At NICRH, a quasi-experimental research was conducted to examine the efficacy of concurrent chemoradiation with cisplatin and capecitabine in locoregionally progressed cancer cervix. In each arm, thirty individuals were recruited. In patients with locally advanced squamous cell carcinoma of the uterine cervix, capecitabine-based concurrent chemoradiation was not inferior to cisplatin-based concurrent chemoradiation in terms of ultimate result, according to the findings of the present research. Importantly, capecitabine's toxicity was less evident than that of cisplatin. Therefore, both combinations may be used as a therapy technique. However, capecitabine is less toxic and better tolerated.

REFERENCES

1. Arbyn, M., Weiderpass, E., Bruni, L., de Sanjosé, S., Saraiya, M., Ferlay, J., & Bray, F. (2020). Estimates of incidence and mortality of cervical cancer in 2018: a worldwide analysis. *The Lancet Global Health*, *8*(2), e191-e203.
2. Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., ... & Bray, F. (2015). Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *International journal of cancer*, *136*(5), E359-E386.
3. Seigel, R., & Jemal, A. (2015). American Cancer Society: Cancer Facts and Figures 2015. *American Cancer Society: Atlanta, GA, USA.*
4. National cancer control strategy & plan of action 2009-2015. Dhaka: Ministry of Health & Family Welfare; 2008. p. 32-33.
5. National Institute of Cancer Research and Hospital. Cancer Registry Report 2014 [Internet]. Dhaka: Department of Cancer Epidemiology; 2015 [cited 2017 Nov 12]. Available from: www.dghs.gov.bd/publication/more publication/cancer registry report
6. Bosch, F. X., & de Sanjose, S. (2003). Human Papilloma virus & cervical cancer- Burden & Assessment of casualty. *J. Natt. Cancer Inst. Monegr*, 31, 3-13.
7. DeVita, V. T., Lawrence, T. S., & Rosenberg, S. A. (2015). Cancer of the skin: cancer: principles & practice of oncology. *Lippincott Williams & Wilkins*.
8. Halperin, E. C., Brady, L. W., Wazer, D. E., & Perez, C. A. (2013). Perez & Brady's principles and practice of radiation oncology. L*ippincott Williams & Wilkins.*
9. Berek, J. S., Hacker, N. F., Berek. & Hackers. (2015). Gynaecologic Oncology. *6th ed. Philadelphia: Wolters kluwer Health.*
10. Beyzadeoglu, M., Ozyigit, G., & Ebruli, C. (2010). Basic radiation oncology. Berlin: Springer.
11. Van Cutsem, E., Hoff, P. M., Harper, P., Bukowski, R. M., Cunningham, D., Dufour, P., ... & Schilsky, R. L. (2004). Oral capecitabine vs intravenous 5-fluorouracil and leucovorin: integrated efficacy data and novel analyses from two large, randomised, phase III trials. *British journal of cancer*, *90*(6), 1190-1197.
12. Landoni, F., Maneo, A., Colombo, A., Placa, F., Milani, R., Perego, P., ... & Mangioni, C. (1997). Randomised study of radical surgery versus radiotherapy for stage Ib-IIa cervical cancer. *The Lancet*, *350*(9077), 535-540.
13. Morris, M., Eifel, P. J., Lu, J., Grigsby, P. W., Levenback, C., Stevens, R. E., ... & Mutch, D. G. (1999). Pelvic radiation with concurrent chemotherapy compared with pelvic and para-aortic radiation for high-risk cervical cancer. *New England Journal of Medicine*, *340*(15), 1137-1143.
14. Whitney, C. W., Sause, W., Bundy, B. N., Malfetano, J. H., Hannigan, E. V., Fowler, Jr, W. C., ... & Liao, S. Y. (1999). Randomized comparison of fluorouracil plus cisplatin versus hydroxyurea as an adjunct to radiation therapy in stage IIB-IVA carcinoma of the cervix with negative para-aortic lymph nodes: a Gynecologic Oncology Group and Southwest Oncology Group study. *Journal of Clinical Oncology*, *17*(5), 1339-1339.
15. National Comprehensive Cancer Network: cervical cancer Version 2.2013, http://www.nccn.org/professionals/physician gls/pdf/cervical.pdf.
16. Stewart, A. J., & Viswanathan, A. N. (2006). Current controversies in high-dose-rate versus low-dose-rate brachytherapy for cervical cancer. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, *107*(5), 908-915.
17. Zhang, X., Dai, B., Zhang, B., & Wang, Z. (2012). Vitamin A and risk of cervical cancer: a meta-analysis. *Gynecologic oncology*, *124*(2), 366-373.
18. Hogewoning, C. J., Bleeker, M. C., van den Brule, A. J., Voorhorst, F. J., Snijders, P. J., Berkhof, J., ... & Meijer, C. J. (2003). Condom use promotes regression of cervical intraepithelial neoplasia and clearance of human papillomavirus: a randomized clinical trial. *International journal of cancer*, *107*(5), 811-816.
19. Tewari, K. S., Sill, M. W., Long III, H. J., Penson, R. T., Huang, H., Ramondetta, L. M., ... & Monk, B. J. (2014). Improved survival with bevacizumab in advanced cervical cancer. *New England Journal of Medicine*, *370*(8), 734-743.
20. Domingo, E., Lorvidhaya, V., de Los Reyes, R., SyOrtin, T., Kamnerdsupaphon, P., Lertbutsayanukul, C., ... & Lertsanguansinchai, P. (2009). Capecitabine-based chemoradiotherapy with adjuvant capecitabine for locally advanced squamous carcinoma of the uterine cervix: phase II results. *The Oncologist*, *14*(8), 828-834.
21. Rose, P. G., Bundy, B. N., & Watkins, J. Concurrent cisplatin-based chemotherapy and radiotherapy for locally advanced cervical cancer. *N Engl J Med*, *340*(1144), 1999-1153.