Outcome of Etoposide Carboplatin versus etoposide cisplatin in the treatment of extensive stage small cell lung cancer: a Quasi Experimental study.

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Abstract

Introduction: Small Cell Lung Cancer (SCLC) represents 15% of lung cancers, typically presenting in the central airways and rapidly metastasizing. It is closely linked to smoking, with various factors affecting survival, including tumor size, metastasis, and age. Chemotherapy, particularly platinum-based regimens like Cisplatin-Etoposide (EP), is the standard treatment, though its toxicities limit its use. Etoposide-Carboplatin offers a less toxic alternative, especially for elderly patients. This study compares the efficacy and toxicity of Etoposide-Carboplatin versus Etoposide-Cisplatin in Extensive-Stage SCLC patients in Bangladesh.

Methods: A quasi-experimental study was conducted at BSMMU and NICR&H in Dhaka, Bangladesh. Seventy patients with extensive-stage SCLC were enrolled, receiving either Etoposide-Carboplatin (ARM A) or Etoposide-Cisplatin (ARM B). Sample size calculation was based on toxicity rates, yielding 35 patients per arm. Treatment response was evaluated using RECIST criteria, and hematological and non-hematological toxicities were assessed.

Results: Treatment responses showed no significant difference between arms, with partial response observed in 65.7% (ARM A) and 77.1% (ARM B) after 3 cycles (p=0.136). Toxicities were more prominent in ARM A, particularly in leucopenia and nausea/vomiting. Statistically significant differences were found in leucopenia (p=0.0158), with more severe cases in ARM B. No significant differences were observed in neuropathy, hypersensitivity, or kidney injury.

Conclusion: Both Etoposide-Carboplatin and Etoposide-Cisplatin regimens demonstrate comparable efficacy in treating Extensive-Stage SCLC. However, Etoposide-Cisplatin was associated with fewer toxicities, particularly in terms of hematological and gastrointestinal side effects. These findings suggest that Etoposide-Cisplatin may be preferable for certain patient populations, particularly those at risk for chemotherapy-related toxicities.

Keywords: cisplatin; carboplatin; small cell carcinoma; treatment

Introduction

Small Cell Lung Cancer (SCLC) accounts for 15% of lung cancers. It typically arises in the central airways, causing bronchial narrowing, and is characterized by rapid growth and early widespread metastases.[1] Diagnosis requires tissue confirmation via biopsy or cytology, often guided by imaging or bronchoscopy. Staging involves chest radiographs, CT scans, blood tests, and additional imaging like MRI or bone scintigraphy.[2] It is strongly associated with

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smoking.[3] Risk factors for poor survival include large tumor size, multiple metastases, older age, heavy smoking, and elevated tumor markers.[4,5]

SCLC is highly sensitive to chemotherapy, which remains the cornerstone of treatment, improving survival and quality of life compared to supportive care alone.[6] Platinum-based regimens, particularly Cisplatin-Etoposide (EP), are the gold standard due to their efficacy.[7] Combination chemotherapy, especially platinum-doublet regimens, has proven superior to single-agent therapy, enhancing survival and quality of life.[8] However, Cisplatin's toxicity profile (nephrotoxicity, ototoxicity, emesis) limits its use in elderly or comorbid patients.[9] Etoposide-Carboplatin, a less toxic alternative, shows similar efficacy and is preferred in older populations. Elderly patients often tolerate Carboplatin better due to fewer toxicities, while overweight patients may benefit more from the Etoposide-Cisplatin regimen.[10]

Despite differences in toxicity, both regimens demonstrate comparable efficacy in treating SCLC. This study aims to compare the outcomes and toxicities of Etoposide-Carboplatin versus Etoposide-Cisplatin in Extensive-Stage SCLC patients in Bangladesh, assessing treatment response and acute toxicities.

Methodology

The study was quasi-experimental study conducted at two of the hospital of Dhaka, Bangladesh; Bangabandhu Sheikh Mujib Medical University (BSMMU) and National Institute of Cancer Research and Hospital (NICR&H) after obtaining the ethical approval from Institutional Review Board (IRB) of BSMMU. The patients admitted at BSMMU and NICR&H with histologically and cytologically proven extensive-stage small cell lung cancer was the study population. Written consent was taken from the patients. Two groups were taken: one who was treated with an infusional Etoposide-Carboplatin regimen (ARM A) and another group who was treated with an infusional Etoposide-Cisplatin regimen (ARM B).

Sample size for the study was calculated using following formula:

Where P1 is percentage of patient that developed grade 3/4 neutropenia in Etoposide-Carboplatin arm (ARM A) = 57.9% [11]

P 2 = Percentage of the patient that developed grade 3 / 4 neutropenia in Etoposide-Cisplatin arm (Arm B) = 18% [12]

$Z\alpha$ = Z value (two tail) at a definite level of significance e.g., 1.96 at 5% level of significance =1.96

$Z\beta$ = Z value (one tail) at a definite power e.g., 1.64 at 90% power = 1.96

Thus, the value obtained from formula was 32 after adding 10% loss of follow-up, the final sample size per group was 35. Thus, 35 sample was taken for each Arm A and Arm B.

The inclusion criteria for the study required patients to have histo-pathologically or cytologically confirmed small cell lung cancer, a diagnosis of extensive-stage disease based on the AJCC 8th edition TNM definition, and an age range of 18 to 75 years. Exclusion criteria included a history of prior chemotherapy or radiotherapy, initial surgery of the primary site (excluding diagnostic biopsy), brain metastasis or SVCO requiring radiotherapy, an Eastern Cooperative Oncology Group (ECOG) performance status >2, double primary cancers, pregnancy or lactation, and severe concomitant medical illnesses such as severe heart disease,

uncontrolled diabetes mellitus, or hypertension. These criteria ensured a focused evaluation of treatment outcomes in eligible patients.

According to the RECIST criteria, the response evaluation after completing 4 weeks of treatment was categorized as follows: Complete Response (CR)-disappearance of all target lesions; Partial Response (PR)- a ≥30% reduction in the sum of the longest diameter of target lesions compared to baseline; Progressive Disease (PD)-a ≥20% increase in the smallest sum of diameters recorded, with an absolute increase of at least 5 mm over the lowest sum; and Stable Disease (SD)-neither meeting the criteria for progressive disease nor partial response. These categories were used to assess treatment efficacy and disease progression.

The independent variables in the study included demographic factors such as age, sex, height, weight, body surface area, and risk factors, as well as clinical variables like the site of metastasis and stage of the disease. The dependent variables were treatment response and the toxicities caused by the treatment. These variables were analyzed to assess the outcomes and side effects of the therapeutic regimens in the study population.

All the collected data were entered into MS Excel and data were exported to IBM SPSS V26 for further analysis. Descriptive, cross-tabulation and bivariate analysis was performed in SPSS.

Results

A total of 70 patients were included in the study, out of which 35 belonged to ARM A (treated with Etoposide-Carboplatin) and the remaining 35 belonged to ARM B (treated with Etoposide-Cisplatin).

In ARM A, males were 28 (80.0%) and females were 7 (20.0%). In ARM B, males were 25 (71.4%) and females were 10 (28.6%). For age distribution, in ARM A, 18 (51.4%) were 51-60 years and 14 (40.0%) were 61-70 years. In ARM B, 15 (42.9%) were 51-60 years and 10 (28.6%) were 61-70 years. The mean age was 58.4±10.4 years in ARM A and 54.7±8.7 years in ARM B. Mean weight was 52.4±10.6 kg in ARM A and 53.8±8.0 kg in ARM B. Mean height was 165.2±3.8 cm in ARM A and 163.3±4.7 cm in ARM B. Mean body surface area (BSA) was 1.6±0.1 in both arms.

Table 1: Background Characters

Category	ARM A n (%)	ARM B n (%)
Gender		
Male	28 (80.0%)	25 (71.4%)
Female	7 (20.0%)	10 (28.6%)
Age		
30-40 years	0 (0.0%)	1 (2.9%)
41-50 years	3 (8.6%)	9 (25.7%)
51-60 years	18 (51.4%)	15 (42.9%)
61-70 years	14 (40.0%)	10 (28.6%)
Education Level		
Illiterate	3 (8.6%)	1 (2.9%)
Primary	14 (40.0%)	10 (28.6%)
Secondary	12 (34.3%)	17 (48.6%)
Bachelor and above	6 (17.1%)	7 (20.0%)
Occupation		
Farmer	12 (34.3%)	10 (28.6%)
Factory worker	4 (11.4%)	8 (22.9%)
Office worker	12 (34.3%)	6 (17.1%)
Homemaker	4 (11.4%)	5 (14.3%)
Others	3 (8.6%)	6 (17.1%)
Total	35 (100%)	35 (100%)

For education levels, in ARM A, 14 (40.0%) had primary education and 12 (34.3%) had secondary education. In ARM B, 10 (28.6%) had primary education and 17 (48.6%) had secondary education. For occupation, in ARM A, 12 (34.3%) were farmers and 12 (34.3%) were office workers. In ARM B, 10 (28.6%) were farmers and 6 (17.1%) were office workers. Each arm had a total of 35 participants. (Table 1)

In ARM A, 25 (71.4%) reported smoking, while in ARM B, 23 (65.7%) reported smoking. For lung diseases, in ARM A, 9 (25.7%) had COPD and 5 (14.3%) had asthma. In ARM B, 11 (31.4%) had COPD and 6 (17.1%) had asthma. For other comorbidities, 13 (37.1%) in ARM A and 16 (45.7%) in ARM B had hypertension or diabetes mellitus. (Table 2)

Table 2: Risk factor and co-morbidity related to SCLC

Category	ARM A n (%)	ARM B n (%)
Tobacco-related habits		
Smoking	25 (71.4%)	23 (65.7%)
Jarda	18 (51.4%)	20 (57.1%)
Pan	29 (82.9%)	32 (91.4%)
Lung diseases		
COPD	9 (25.7%)	11 (31.4%)
Asthma	5 (14.3%)	6 (17.1%)
Tuberculosis	4 (11.4%)	2 (5.7%)
Other comorbidities		
Hypertension/Diabetes	13 (37.1%)	16 (45.7%)
Total	35 (100%)	35 (100%)

In ARM A, 11 (31.4%) had Stage III cancer, and 24 (68.6%) had Stage IV cancer. In ARM B, 9 (25.7%) had Stage III cancer, and 26 (74.3%) had Stage IV cancer. For the site of metastasis, in ARM A, 12 (50.0%) had lung metastasis and 9 (37.5%) had liver metastasis. In ARM B, 16 (61.5%) had lung metastasis and 8 (30.8%) had liver metastasis. (Table 3)

Table 3: Staging of SCLC

Category	ARM A n (%)	ARM B n (%)
Stage of cancer		
Stage III	11 (31.4%)	9 (25.7%)
Stage IV	24 (68.6%)	26 (74.3%)
Site of metastasis		
Lung	12 (50.0%)	16 (61.5%)
Liver	9 (37.5%)	8 (30.8%)
Adrenal	1 (4.2%)	0 (0.0%)
Bone	2 (8.3%)	2 (7.7%)
Total	35 (100%)	35 (100%)

After 3 cycles, Complete Response (CR) was observed in 2 (5.7%) patients in ARM A and 5 (14.3%) in ARM B Partial Response (PR) was observed in 23 (65.7%) patients in ARM A and 27 (77.1%) in ARM B. Stable Disease (SD) was reported in 8 (22.9%) patients in ARM A and 2 (5.7%) in ARM B, while Progressive Disease (PD) was observed in 2 (5.7%) patients in ARM A and 1 (2.9%) in ARM B. ($p=0.136$, $\chi2=5.539$). At the 1st follow-up (6 weeks), CR was observed in 12 (34.3%) patients in ARM A and 14 (40.0%) in ARM B. SD was reported in 2 (5.7%) patients in ARM A and 0 (0.0%) in ARM B ($p=0.47$, $\chi2=2.54$). At the 2nd follow-up (12 weeks), CR was observed in 7 (20.0%) patients in ARM A and 10 (28.6%) in ARM B. SD was reported in 0 (0.0%) patients in both arms ($p=0.481$, $\chi2=1.466$). At the 3rd follow-up (18 weeks), CR was observed in 4 (11.4%) patients in ARM A and 6 (17.1%) in ARM B. PR was observed in 2 (5.7%) patients in ARM A and 1 (2.9%) in ARM B ($p=0.687$, $\chi2=0.751$). (Table 4)

The hematologic toxicities were assessed by severity grades of anemia, leukopenia and thrombocytopenia between ARM A and ARM B. Anemia was observed in both groups. In ARM A, Grade 1 anemia occurred in 16 (45.7%) patients, Grade 2 in 16 (45.7%), and Grade 3 in 3 (8.6%). In ARM B, Grade 1 anemia occurred in 9 (25.7%) patients, Grade 2 in 22 (62.9%), and Grade 3 in 4 (11.4%) ($p=0.2175p=0.2175$, $\chi2=3.05\chi2=3.05$). For leucopenia, Grade 1 was observed in 9 (25.7%) patients in ARM A and 5 (14.3%) in ARM B. Grade 2 occurred in 23 (65.7%) patients in ARM A and 17 (48.6%) in ARM B, while Grade 3 was reported in 3 (8.6%) patients in ARM A and 13 (37.1%) in ARM B ($p=0.0158p=0.0158$, $\chi2=8.292\chi2=8.292$) which was found to be statistically significant. In thrombocytopenia, Grade 0 was observed in 7 (20.0%) patients in ARM A and 16 (45.7%) in

Table 4: Treatment response in terms of reduction of tumor size over time					
Time Point	Response	ARM A	ARM B	p-value	Chi-square
After 3 Cycles	Complete Response (CR)	2 (5.7%)	5 (14.3%)	0.136	5.539
	Partial Response (PR)	23 (65.7%)	27 (77.1%)		
	Stable Disease (SD)	8 (22.9%)	2 (5.7%)		
	Progressive Disease (PD)	2 (5.7%)	1 (2.9%)		
1st Follow-Up (6 Weeks)	Complete Response (CR)	12 (34.3%)	14 (40.0%)	0.47	2.54
	Partial Response (PR)	10 (28.6%)	12 (34.3%)		
	Stable Disease (SD)	2 (5.7%)	0 (0.0%)		
	Progressive Disease (PD)	11 (31.4%)	9 (25.7%)		
2nd Follow-Up (12 Weeks)	Complete Response (CR)	7 (20.0%)	10 (28.6%)	0.481	1.466
	Partial Response (PR)	8 (22.9%)	10 (28.6%)		
	Stable Disease (SD)	0 (0.0%)	0 (0.0%)		
	Progressive Disease (PD)	20 (57.1%)	15 (42.9%)		
3rd Follow-Up (18 Weeks)	Complete Response (CR)	4 (11.4%)	6 (17.1%)	0.687	0.751
	Partial Response (PR)	2 (5.7%)	1 (2.9%)		
	Stable Disease (SD)	0 (0.0%)	0 (0.0%)		
	Progressive Disease (PD)	29 (82.9%)	28 (80.0%)		

Table 5: Toxicity Profiles of ARM A and ARM B					
Toxicity	Grade	ARM A	ARM B	p-value	Chi-square
Anemia	Grade 1	16 (45.7%)	9 (25.7%)	0.2175	3.05
	Grade 2	16 (45.7%)	22 (62.9%)		
	Grade 3	3 (8.6%)	4 (11.4%)		
Leucopenia*	Grade 1	9 (25.7%)	5 (14.3%)	0.0158	8.292
	Grade 2	23 (65.7%)	17 (48.6%)		
	Grade 3	3 (8.6%)	13 (37.1%)		
Thrombocytopenia	Grade 0	7 (20.0%)	16 (45.7%)	N/A	N/A
	Grade 1	14 (40.0%)	17 (48.6%)		
	Grade 2	8 (22.9%)	2 (5.7%)		
	Grade 3	6 (17.1%)	0 (0.0%)		

ARM B. Grade 1 occurred in 14 (40.0%) patients in ARM A and 17 (48.6%) in ARM B, Grade 2 in 8 (22.9%) patients in ARM A and 2 (5.7%) in ARM B, and Grade 3 in 6 (17.1%) patients in ARM A and 0 (0.0%) in ARM B. (Table 5)

The comparison of non-hematological toxicities between ARM A and ARM B shows a significant difference in nauseavomiting (p=0.0114p=0.0114, $\chi2=8.956\chi2=8.956$). In ARM A, Grade 0 nausea/vomiting occurred in 9 (25.7%) patients, Grade 1 in 22 (62.9%), and Grade 2 in 4 (11.4%). In ARM B, Grade 0 nausea/vomiting occurred in 3 (8.6%) patients, Grade 1 in 18 (51.4%), and Grade 2 in 14 (40.0%). For neuropathy, Grade 0 was observed in 8 (22.9%) patients in ARM A and 4 (11.4%) in ARM B. Grade 1 occurred in 20 (57.1%) patients in ARM A and 19 (54.3%) in ARM B, while Grade 2 was reported in 7 (20.0%) patients in ARM A and 12 (34.3%) in ARM B (p=0.263p=0.263, $\chi2=2.675\chi2=2.675$). In hypersensitivity, no toxicity was observed in 22

Table 6: Non Hematological toxicity					
Toxicity	Grade	ARM A	ARM B	p-value	Chi-square
Neuropathy	Grade 0	8 (22.9%)	4 (11.4%)	0.263	2.675
	Grade 1	20 (57.1%)	19 (54.3%)		
	Grade 2	7 (20.0%)	12 (34.3%)		
Nausea/Vomiting*	Grade 0	9 (25.7%)	3 (8.6%)	0.0114	8.956
	Grade 1	22 (62.9%)	18 (51.4%)		
	Grade 2	4 (11.4%)	14 (40.0%)		
Hypersensitivity	No toxicity	22 (62.9%)	24 (68.6%)	0.297	1.087
	Grade 1	3 (8.6%)	1 (2.9%)		
Acute Kidney Injury	Grade 0	29 (82.9%)	21 (60.0%)	0.0785	5.089
	Grade 1	5 (14.3%)	9 (25.7%)		
	Grade 2	1 (2.9%)	5 (14.3%)		
Febrile Neutropenia	Grade 0	25 (71.4%)	17 (48.6%)	0.135	4
	Grade 3	8 (22.9%)	13 (37.1%)		
	Grade 4	2 (5.7%)	5 (14.3%)		
Hearing Impaired	Grade 0	32 (91.4%)	28 (80.0%)	N/A	N/A
	Grade 1	3 (8.6%)	2 (5.7%)		
	Grade 2	0 (0.0%)	3 (8.6%)		

(62.9%) patients in ARM A and 24 (68.6%) in ARM B. Grade 1 hypersensitivity occurred in 3 (8.6%) patients in ARM A and 1 (2.9%) in ARM B (p=0.297p=0.297, $\chi 2$=1.087$\chi 2$=1.087). For acute kidney injury, Grade 0 was observed in 29 (82.9%) patients in ARM A and 21 (60.0%) in ARM B. Grade 1 occurred in 5 (14.3%) patients in ARM A and 9 (25.7%) in ARM B, while Grade 2 was reported in 1 (2.9%) patient in ARM A and 5 (14.3%) in ARM B (p=0.0785p=0.0785, $\chi 2$=5.089$\chi 2$=5.089). (Table 6)

T Stage in Arm A had T2 5 (14.3%), T3 17 (48.6%), and T4 13 (37.1%), while Arm B had T2 11 (31.4%), T3 4 (11.4%), and T4 20 (57.1%) (Table 3). There was no significant association in T, N and M stage across ARM A and ARM B indicating similar distribution of tumor, nodal and metastatic stage between ARM A and ARM B.

Discussion

The study compared the outcomes and toxicities of Etoposide-Carboplatin and Etoposide-Cisplatin regimen in treating small cell lungs cancer in Bangladesh. Treatment with both regimens showed similar effectiveness in treatment response with no significant difference in complete response rate and progression of disease. In terms of toxicity, ARM B had more severe toxicities particularly for nausea/vomiting (37.1% in ARM B and 8.6% in ARM A) and leucopenia (40% in ARM B and 11.4% in ARM A). The findings suggest that while both regimens show similar efficacy in terms of tumor response and they differ in toxicity profiles where Etoposide-Cisplatin is associated with more severe toxicities.

The demographic profile of the patient showed high smoking in ARM A (71.4%) then in ARM B (65.7%) and majority of the patients in both arms being over 50 years of age. Smoking and elderly age are considered as risk factor for SCLC. Moreover, comorbidity like chronic obstructive pulmonary disease (COPD), asthma and tuberculosis were observed in both the arms with

COPD being most common. These conditions have influence over treatment response and severity of toxicity.[10]

In terms of treatment response, both regimens demonstrated similar effectiveness. After 3 cycles, the complete response rate in ARM B (14.3%) was higher than in ARM A (5.7%) though this difference was not statistically significant. Disease progression after 18, weeks was similar with 82.9% in ARM A and 80% in ARM B. The results were consistent with prior studies conducted in New Zealand, Hongkong suggesting that both regimens provide similar effectiveness in reducing tumor for SCLC.[13,14] Similarly, a meta-analysis conducted in 2013 also indicated no significant difference in efficacy between cisplatin-based and carboplatin-based regimens for treatment of SCLC.[15]

Our study shows that, etoposide-cisplatin had higher toxicity over etoposide-carboplatin linked with gastrointestinal disturbances like vomiting/ nausea (Grade-2 40%) and hematological toxicity like leucopenia (Grade-2 37.1%). This finding was similar to the studies which also indicated Grade-3 and Grade-4 nausea vomiting up to 40% in patients receiving cisplatin based regimen (9,13). Hematological toxicity of cisplatin based regimen has fewer incidence of severe neutropenia compared to those treated with etoposide-carboplatin(14,15)Canada, were reviewed, and patients with extrapulmonary NECs (including those with small cell and large cell neuroendocrine carcinomas. Other study also indicates that cisplatin is linked to risk of nephrotoxicity which can lead to acute kidney injury in some patients and risk of retinopathy.[18, 19]

The study compared the outcomes and toxicities of Etoposide-Carboplatin and Etoposide-Cisplatin regimens in the treatment of small cell lung cancer in Bangladesh. Both regimens demonstrated similar effectiveness in treatment response, with no significant difference in complete response rate or disease progression. However, ARM B exhibited more severe toxicities, particularly nausea/vomiting (37.1% in ARM B vs. 8.6% in ARM A) and leucopenia (40% in ARM B vs. 11.4% in ARM A). These findings suggest that while both regimens offer comparable efficacy in tumor response, Etoposide-Cisplatin is associated with greater toxicity. The differences in toxicity profiles should be considered when selecting a treatment regimen, particularly in patients with pre-existing conditions or those at risk of severe adverse effects.

The demographic profile revealed a higher prevalence of smoking in ARM A (71.4%) compared to ARM B (65.7%), with the majority of patients in both arms being over 50 years of age. Smoking and advanced age are well-recognized risk factors for small cell lung cancer. Additionally, comorbidities such as chronic obstructive pulmonary disease (COPD), asthma, and tuberculosis were observed in both arms, with COPD being the most common. These conditions may influence treatment response and the severity of toxicities, potentially complicating disease management. [10] Given the role of these factors in disease progression and treatment tolerance, clinicians must assess individual patient profiles when choosing an appropriate regimen.

Both regimens showed similar effectiveness in tumor response. After three cycles, the complete response rate was higher in ARM B (14.3%) than in ARM A (5.7%), although the difference was not statistically significant. Disease progression at 18 weeks was comparable, with 82.9% in ARM A and 80% in ARM B. These findings align with previous studies conducted in New Zealand and Hong Kong, which also indicated

that both regimens provide comparable efficacy in tumor reduction for small cell lung cancer.[13,14] A 2013 meta-analysis further supported these findings, demonstrating no significant difference in efficacy between cisplatin-based and carboplatin-based regimens for small cell lung cancer treatment.[13] The consistency of these results across multiple studies reinforces the reliability of both treatment options.

The study further revealed that Etoposide-Cisplatin was associated with a higher incidence of toxicities, particularly gastrointestinal disturbances such as nausea and vomiting (Grade 2: 40%) and hematological toxicity, including leucopenia (Grade 2: 37.1%). These results are consistent with previous studies reporting Grade 3 and Grade 4 nausea/vomiting in up to 40% of patients receiving a cisplatin-based regimen.[10,14] Furthermore, hematological toxicity associated with cisplatin-based regimens has been linked to a lower incidence of severe neutropenia compared to Etoposide-Carboplatin.[16,17] Additionally, other studies have indicated that cisplatin poses a risk of nephrotoxicity, which may lead to acute kidney injury, as well as an increased likelihood of retinopathy.[18,19] Given these potential complications, careful monitoring and supportive management are essential for patients undergoing cisplatin-based therapy.

This study has several strengths and limitations. One of its major strengths is the direct comparison of two widely used chemotherapy regimens for extensive-stage small cell lung cancer (SCLC), providing real-world insights into their effectiveness and toxicity in the Bangladeshi population. The study's structured methodology, including strict inclusion and exclusion criteria, ensures a focused evaluation of treatment outcomes. Additionally, the use of RECIST criteria for response assessment and statistical analysis using SPSS adds reliability to the findings. However, there are some limitations. The sample size is relatively small, which might limit the generalizability of the results. Also, being a quasi-experimental study, there is a risk of selection bias. Moreover, factors like variations in supportive care, patient adherence, and underlying comorbidities could have influenced the outcomes but were not fully accounted for. Despite these limitations, the study provides valuable data that can guide treatment decisions for extensive-stage SCLC patients.

Conclusion

Both the Etoposide-Carboplatin and Etoposide-Cisplatin regimens demonstrated comparable efficacy in treating small cell lung cancer, with similar treatment response and disease progression rates. However, Etoposide-Cisplatin was associated with higher incidences of vomiting/nausea and leucopenia compared to Etoposide-Carboplatin. The study suggests that the Etoposide-Carboplatin regimen may offer a survival advantage due to its more manageable side effect profile, making it a viable treatment option for small cell lung cancer.

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