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A General Audit of Adenocarcinoma Lung Cases Treated At JK Cancer Institute Kanpur between January 2018 to December 2019

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Abstract
Introduction: *Lung adenocarcinoma is a subtype of non-small cell lung cancer (NSCLC). Lung adenocarcinoma is categorized as such by how the cancer cells look under a microscope. Lung adenocarcinoma starts in glandular cells, which secrete substances such as mucus, and tends to develop in smaller airways, such as alveoli[(1,2,3,4)]. Gefitinib is a small molecule tyrosine kinase inhibitor of epidermal growth factor receptor (EGFR)[(5)]. Since 2004, it was clear that a substantial proportion of non-small-cell lung cancers (NSCLC) obtaining objective response when treated with gefitinib harbour activating mutations in the EGFR gene. Consequently, EGFR mutation has been widely studied, together with other molecular characteristics, as a potential predictive factor for gefitinib efficacy[(6,7,8,9,10,11)]*
Aim: *To Compare the overall survival, time to disease progression and toxicity between two chemotheraupetic regimen.*
Material And Methods: *Single institution retrospective study 2018, 2019 in patients who received gefitinib, gemcitabine+cisplatin, gemcitabine+carboplatin, paclitaxel+carboplatin based chemotheraupetic regimen. A total 75 patients were identified. of whom 19 patients received tab gefitinib,7 received pacli+carbo,1 received RT f/b pacli+carbo,1 patient received pacli+carbo f/b RT,2 patient received pacl+carbo f/b gefitinib,6 patient received gem+carb f/b gefitinib,2 received palliative RT f/b gefitinib,1 patient received gefitinib f/b methotrexate,1 patient received gefitinib f/b pacli+carbo,3 patient received gefitinib f/b RT,1 patient received gem+cis,1 patient received gem+cis f/b gem+carb,1 patient received gem+cis f/b gefitinib,1 patient received bevaci+gem+carb,1 patient received erlotinib,3 patient received palliative RT,1 patient received bevaci+gem+carb f/bgem+carb f/b pacli+carb f/b gem+carb f/b gefitinib*
Results: *We observed the overall survival, time to progression were better in gefitinib arm. No major acute toxicities seen in both arm*
Conclusion: *Gefitinib based chemotherapy provide better overall survival and increased time to disease progression and advantage of oral dosing thus facilitating drug delivery and patient compliance*
Keywords: *Gefitinib,adenocarcinoma lung.*

Aim

A General audit of adenocarcinoma lung cases treated at JK CANCER INSTITUTE Kanpur between January 2018 to December 2019.

Material and Methods

In our study, 75 previously untreated patients with histopathologically proven adenocarcinoma lung were include from 1st January 2018 to 31st December 2019.

Inclusion Criteria

1. Histologically proven cases of adenocarcinoma lung who presented to OPD of J.K. Cancer Institute, Kanpur between January 2018 to December 2019
2. Karnofsky performance status >70
3. Complete hemogram with Hb>10gm/dl; TLC>4000/cmm; platelete count>100,000/cmm
4. Renal function test with blood urea<40 mg/dl and serum creatinine <1.5mg/dl
5. Liver function test with SGOT not more than double of upper limit

Exclusion Criteria

1. Small cell carcinoma lung.
2. Comorbid conditions such as renal disease, liver disease/heart disease.
3. Karnofsky performance status<70

Overall survival was defined as the time from starting of treatment until last follow up or death. All patients were evaluated for toxicity from the first day of treatment.

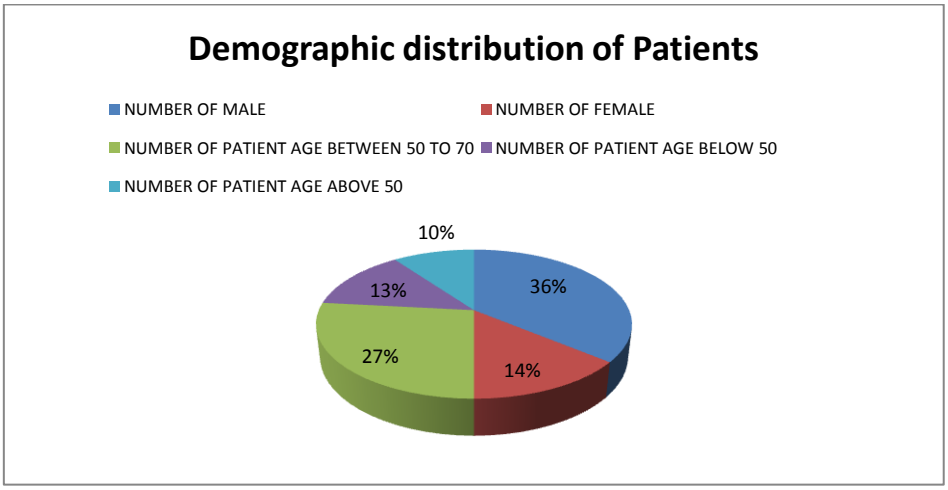
Results

In our study, 75 previously untreated patients with histopathologically proven adenocarcinoma lung were include from 1st January 2018 to 31st December 2019

19 patients received tab gefitinib,7 received pacli+carbo,1 received RT f/b pacli+carbo,1 patient received pacli+carbo f/b RT,2 patient received pacl+carbo f/b gefitinib,6 patient received gem+carb f/b gefitinib,2 received palliative RT f/b gefitinib,1 patient received gefitinib f/b methotrexate,1 patient received gefitinib f/b pacli+carbo,3 patient received gefitinib f/b RT,1 patient received gem+cis,1 patient received gem+cis f/b gem+carb,1 patient received gem+cis f/b gefitinib,1 patient received bevaci+gem+carb,1 patient received erlotinib,3 patient received palliative RT,1 patient received bevaci+gem+carb f/bgem+carb f/b pacli+carb f/b gem+carb f/b gefitinib

Over all the number of male patients is much higher than female patients. median age was 60 (ranges from 50 to 70). Most of the patient had KPS 70. Most common presenting complain was breathlessness and chest pain

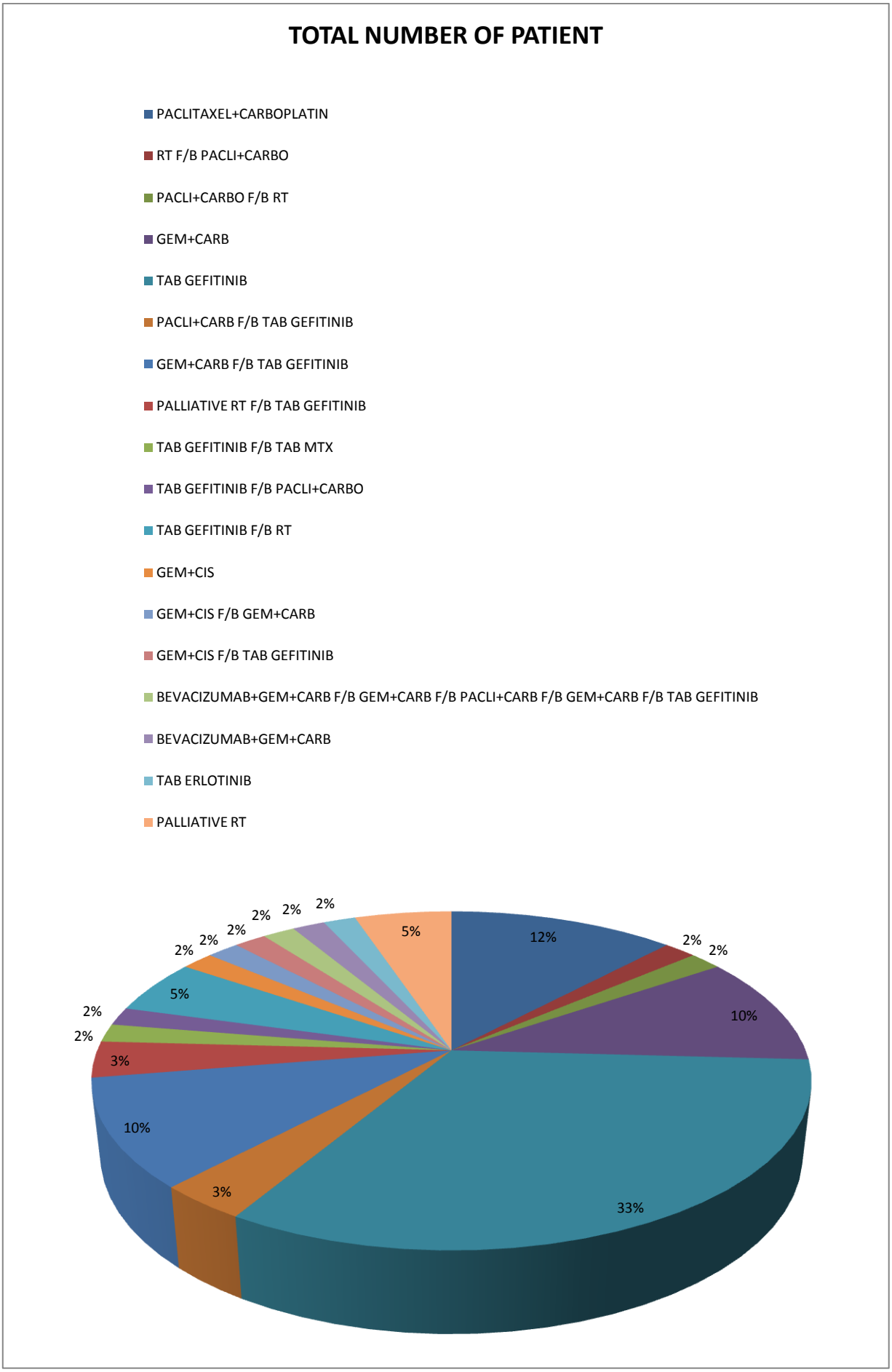
Demographic distribution of Patients	
NUMBER OF MALE	54
NUMBER OF FEMALE	21
NUMBER OF PATIENT AGE BETWEEN 50 TO 70	40
NUMBER OF PATIENT AGE BELOW 50	20
NUMBER OF PATIENT AGE ABOVE 70	15



Stage wise distribution of patient	
STAGE OF DISEASE	**NUMBER OF PATIENT**
I	05
II	18
III	29
IV	22

REGIMEN	TOTAL NUMBER OF PATIENT
PACLITAXEL+CARBOPLATIN	7
RT F/B PACLI+CARBO	1
PACLI+CARBO F/B RT	1
GEM+CARB	6
TAB GEFITINIB	19
PACLI+CARB F/B TAB GEFITINIB	2
GEM+CARB F/B TAB GEFITINIB	6
PALLIATIVE RT F/B TAB GEFITINIB	2
TAB GEFITINIB F/B TAB MTX	1
TAB GEFITINIB F/B PACLI+CARBO	1
TAB GEFITINIB F/B RT	3
GEM+CIS	1
GEM+CIS F/B GEM+CARB	1
GEM+CIS F/B TAB GEFITINIB	1
BEVACIZUMAB+GEM+CARB F/B GEM+CARB F/B PACLI+CARB F/B GEM+CARB F/B TAB GEFITINIB	1
BEVACIZUMAB+GEM+CARB	1
TAB ERLOTINIB	1
PALLIATIVE RT	3

REGIMEN	TOTAL NUMBER OF PATIENT	NUMBER OF PATIENT WITH SYMPTOMATIC RELIEF	MAXIMUM MONTH OF FOLLOW UP	TIME TO PROGRESS ION	0.S.
PACLITAXEL+CARBOPLATIN	7	5	1 YEAR	4 MONTH	11 MONTH
RT F/B PACLI+CARBO	1	1	6 MONTH	2 MONTH	4.5 MONTH
PACLI+CARBO F/B RT	1	1	5 MONTH		5 MONTH
GEM+CARB	6	3	3 MONTH	4 MONTH	2 MONTH
TAB GEFITINIB	19	12	1 YEAR 5 MONTH	8 MONTH	1 YR 4 MONTH
PACLI+CARB F/B TAB GEFITINIB	2	2	1 YEAR	4 MONTH	10 MONTH
GEM+CARB F/B TAB GEFITINIB	6	5	1 YEAR	5 MONTH	11 MONTH
PALLIATIVE RT F/B TAB GEFITINIB	2	2	10 MONTH	3 MONTH	10 MNTH
TAB GEFITINIB F/B TAB MTX	1	0	1 MONTH		1 MTH
TAB GEFITINIB F/B PACLI+CARBO	1	0	2 MONTH		2 MONTH
TAB GEFITINIB F/B RT	3	0	1 MONTH		1 MONTH
GEM+CIS	1	0	8 DAY		
GEM+CIS F/B GEM+CARB	1	1	4 MONTH		4 MONTH
GEM+CIS F/B TAB GEFITINIB	1	1	9 MONTH		9 MONTH
BEVACIZUMAB+GEM+CARB F/B GEM+CARB F/B PACLI+CARB F/B GEM+CARB F/B TAB GEFITINIB	1	1	1 YEAR		11MONTH
BEVACIZUMAB+GEM+CARB	1	1	3 MONTH		3 MONTH
TAB ERLOTINIB	1	1	2 MONTH		
PALLIATIVE RT	3	0	3 DAY		


TOTAL NUMBER OF PATIENT
PACLITAXEL+CARBOPLATIN
RT F/B PACLI+CARBO
PACLI+CARBO F/B RT
GEM+CARB
TAB GEFITINIB
PACLI+CARB F/B TAB GEFITINIB
GEM+CARB F/B TAB GEFITINIB
PALLIATIVE RT F/B TAB GEFITINIB
TAB GEFITINIB F/B TAB MTX
TAB GEFITINIB F/B PACLI+CARBO
TAB GEFITINIB F/B RT
GEM+CIS
GEM+CIS F/B GEM+CARB
GEM+CIS F/B TAB GEFITINIB
BEVACIZUMAB+GEM+CARB F/B GEM+CARB F/B PACLI+CARB F/B GEM+CARB F/B TAB GEFITINIB
BEVACIZUMAB+GEM+CARB
TAB ERLOTINIB
PALLIATIVE RT
12%
2%
2%
10%
33%
3%
10%
3%
2%
2%
5%
2%
2%
2%
2%
2%
2%
5%

Distribution of Patients

REGIMEN	TOTAL NUMBER OF PATIENT
PACLITAXEL+CARBOPLATIN	7
RT F/B PACLI+CARBO	1
PACLI+CARBO F/B RT	1
GEM+CARB	6
TAB GEFITINIB	19
PACLI+CARB F/B TAB GEFITINIB	2
GEM+CARB F/B TAB GEFITINIB	6
PALLIATIVE RT F/B TAB GEFITINIB	2
TAB GEFITINIB F/B TAB MTX	1
TAB GEFITINIB F/B PACLI+CARBO	1
TAB GEFITINIB F/B RT	3
GEM+CIS	1
GEM+CIS F/B GEM+CARB	1
GEM+CIS F/B TAB GEFITINIB	1
BEVACIZUMAB+GEM+CARB F/B GEM+CARB F/B PACLI+CARB F/B GEM+CARB F/B TAB GEFITINIB	1
BEVACIZUMAB+GEM+CARB	1
TAB ERLOTINIB	1
PALLIATIVE RT	3

REGIMEN	TOXICITES
PACLITAXEL+CARBOPLATIN	Gr IV
RT F/B PACLI+CARBO	Gr III
PACLI+CARBO F/B RT	Gr II
GEM+CARB	Gr IV
TAB GEFITINIB	Gr IV
PACLI+CARB F/B TAB GEFITINIB	Gr III
GEM+CARB F/B TAB GEFITINIB	Gr IV
PALLIATIVE RT F/B TAB GEFITINIB	Gr III
TAB GEFITINIB F/B PACLI+CARBO	Gr III
TAB GEFITINIB F/B RT	Gr II
GEM+CIS	Gr II
GEM+CIS F/B TAB GEFITINIB	Gr III
BEVACIZUMAB+GEM+CARB F/B GEM+CARB F/B PACLI+CARB F/B GEM+CARB F/B TAB GEFITINIB	Gr II

Discussion

Lung adenocarcinoma is a subtype of non-small cell lung cancer (NSCLC). Lung adenocarcinoma is Gefitinib is a small molecule tyrosine kinase inhibitor of epidermal growth factor receptor (EGFR)[5]. Since 2004, it was clear that a substantial proportion of non-small-cell lung cancers (NSCLC) obtaining objective response when treated with gefitinib harbour activating mutations in the EGFR gene. Consequently, EGFR mutation has been widely studied, together with other molecular characteristics, as a potential predictive factor for gefitinib efficacy.[6,7,8,9,10,11)]

As a retrospective study, there is potential of incomplete capture of patients. Missing data and recall bias are shortcomings of this study.

Receptor status was not known for patients who received treatment which could have helped targeted therapy.

Statistics could not be applied since this study was a general audit.

Direct comparison of this retrospective study with previous prospective trials is challenging as differences in methodology and comparative statistical analysis.

Improved survival outcomes, increased time to progression and comparable toxicity was

observed in this analysis in treatment of lung adenocarcinoma with gefitinib.

Conclusion

Gefitinib based chemotherapy provide better overall survival and increased time to disease progression and advantage of oral dosing thus facilitating drug delivery and patient compliance in treatment of adenocarcinoma lung

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