

Retrospective Analysis of Lung Cancer in A Tertiary Care Hospital: Unravelling Treatment Modalities, Adverse Drug Reactions, and Secondary Cancer

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ABSTRACT

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. These contrast with benign tumors, which do not spread. Possible signs and symptoms include a lump, abnormal bleeding, prolonged cough, unexplained weight loss, and change in bowel movements. Over 100 types of cancer affect humans. This study is a hospital-based 6-month-long retrospective study involving 400 patients from oncology Hospital. Data was collected with the help of case report forms.

This retrospective study conducted in a tertiary care hospital unfolds a comprehensive exploration of diverse cancer types, with a specific emphasis on understanding treatment modalities, adverse drug reactions, and the emergence of secondary cancers associated with lung cancer. Through meticulous analysis of patient records, the research aims to provide a detailed overview of the prevalence and distribution of various cancers, offering insights into the evolving landscape of therapeutic approaches. The investigation further scrutinizes the complexities of adverse drug reactions, contributing valuable knowledge to optimize treatment protocols. The study's specific focus on lung cancer cases allows for a nuanced examination of secondary cancer occurrences, facilitating a deeper understanding of the intricacies surrounding this prevalent malignancy. The holistic insights gleaned from this retrospective inquiry contribute to advancing our understanding of cancer management and refining strategies to improve patient care in tertiary care settings.

KEYWORDS: Cancer, Treatment, Adverse Drug Reaction(ADR), Secondary reaction, Vulnerability, Metastasis

INTRODUCTION

Cancer, a multifaceted group of diseases characterized by abnormal cell growth, remains a formidable global health challenge, leading to substantial morbidity and mortality. [1] Recognizing the signs and

symptoms of cancer, such as unexplained weight loss, fatigue, and abnormal growths, is crucial for early detection and intervention. [2] Cancer encompasses various types, including carcinomas, sarcomas, lymphomas, and leukemias, each demanding tailored approaches for effective treatment.[3] Conventional methods like surgery, chemotherapy, and radiation therapy are commonly employed, while advancements in immunotherapy, targeted therapies, and emerging fields like precision medicine offer more personalized and innovative options.[4] This comprehensive overview emphasizes the importance of understanding cancer's diverse manifestations and treatment modalities to advance research, enhance diagnosis, and improve patient outcomes on a global scale.

Lung cancer, a formidable and intricate malignancy, stands as a significant health challenge with far-reaching consequences. Globally, it ranks among the most prevalent and lethal cancers, demanding heightened attention due to its multifaceted nature and substantial impact on public health. Principally associated with tobacco use, lung cancer can also affect non-smokers, adding layers of complexity to its etiology. As a disease that often progresses silently until advanced stages, early detection remains a critical determinant for improved outcomes. [5] A deeper understanding of lung cancer is essential not only for refining treatment approaches but also for advancing preventive measures and raising awareness to mitigate its widespread impact on individuals and communities.

OBJECTIVE

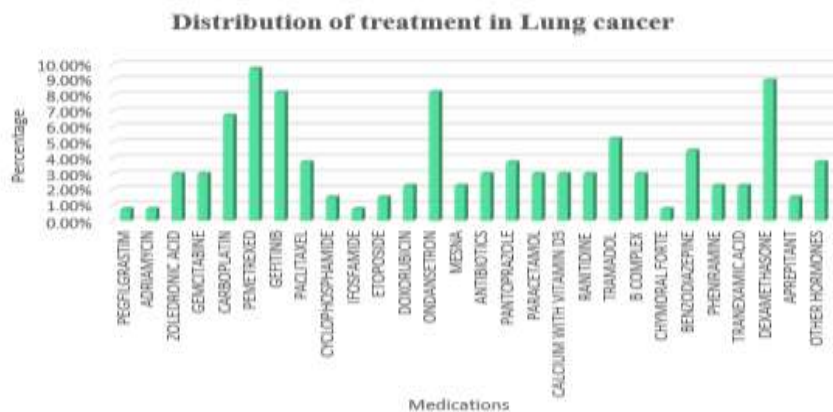
To study the treatment, adverse drug reaction, and occurrence of secondary cancer associated with Lung cancer.

METHODOLOGY

A retrospective study was carried out in the Oncology department of St.Gregorios Medical Mission multi-specialty hospital, Parumala, Thiruvalla. A sample size of 400 patients was taken, out of which 28 of them had lung cancer and were selected for the study. The study duration was six months and it was conducted after receiving approval from the Institutional Ethics Committee of Pushpagiri Medical College Hospital, Thiruvalla. The data collection forms include the demographic criteria, reports, complaints, staging, recurrence, treatment, and follow-up. The study was conducted to determine the distribution of treatment, adverse drug reactions, and occurrence of secondary cancer associated with Lung cancer.

RESULTS

DISTRIBUTION OF TREATMENT IN LUNG CANCER (n=28)



DISTRIBUTION OF ADR ASSOCIATED WITH LUNG CANCER

Drug	Frequency	ADR
Gefitinib	1	Abdominal Pain
Pemetrexed	1	Body pain
Carboplatin	2	Anemia
Etoposide	1	Constipation
Doxorubicin	1	Febrile neutropenia
Gefitinib	1	Papulopustular acne-like eruption
Gefitinib	1	Vomiting

DISTRIBUTION OF OCCURRENCE OF SECONDARY CANCER ASSOCIATED WITH LUNG CANCER

Sl. No.	Occurrence of Secondary cancer	Frequency	Percentage (%)
1	Bone metastasis	2	66.66
2	Pleural metastasis	1	33.33
	Total	3	100

DISCUSSION

The research findings revealed a significant correlation between prolonged exposure to Carboplatin and a notable increase in the incidence of anemia among the study participants. The study done by **Yi-Ju Cheng *et al*** and **Ran Wu *et al*** also demonstrated that carboplatin cases were significantly more likely to report anemia, neutropenia, and thrombocytopenia than non-carboplatin controls.[\[6\]](#)

For the management of lung cancer, the commonly used medications are Pemetrexed, Gefitinib, and Carboplatin. The study done by **Hassan *et al*** and **Omer *et al*** also demonstrated the use of First line platinum-based chemotherapeutics which include doublets of cisplatin or carboplatin given in combination with taxanes (paclitaxel, docetaxel, or vinorelbine), antimetabolites (gemcitabine or pemetrexed), or vinca alkaloids (vinblastine) with comparable activity.[\[7\]](#)

CONCLUSION

For the treatment of lung cancer, the commonly used medications are Pemetrexed (9.7%), Gefitinib (8.2%), and Carboplatin (6.2%). The commonly used pre-medications are Dexamethasone (8.95%) and Ondansetron (8.2%). Mesna (2.23%) and Tramadol (5.22%) were given as supportive medications. From the study, it was evident that the frequency of Anemia occurring due to the administration of Carboplatin was high. Among the 400 patients taken for the study, 28 patients had lung cancer out of which 3 of them exhibited the occurrence of secondary cancer. Metastasis into the pleura and bone was found.

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CONFLICT OF INTEREST

The authors declared that there is no conflict of interest.

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