

# Study for the Epidemiological and Scientific Evaluation of Patients with Non-Small Cell Lung Cancer (NSCLC) from Eastern India

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## ABSTRACT

**Purpose:** Despite improvements in preventive, diagnostic and therapeutic approaches, Non-Small Cell Lung Cancer (NSCLC) continues to be the major cause of cancer related deaths worldwide. At present there are few reports available on demographic and clinico-pathological profile of NSCLC patients of India. Our objectives of this study was to collect proper demographic / clinico-pathological data of Indian NSCLC patients to have an overall view of NSCLC patients in this region and to determine EGFR (Epidermal Growth Factor Receptor ) biology of Indian NSCLC patients.

**Experimental Design:** 115 Eastern Indian NSCLC patients were enrolled. Details of history, clinical examination, histopathology, staging investigations were collected from all patients and EGFR mutation analysis was performed in 80 patients.

**Results:** Mean age of the study population was 60.13yrs. Hindu (83.48%), Rural(51.30%), Male(65.22%) predominated. Ever smoker : never smoker was 0.79:1. Category and cumulative exposure of smoking were significantly correlated with NSCLC types (p value <0.001). Adenocarcinoma(60.87%) with Stage IV disease at presentation(51.43%) predominated. Commonest metastatic site was bone (42.60%). PET-CT staged patients higher than other conventional imaging. EGFR was mutated in 18(15.65%) patients, exclusively in adenocarcinoma type of NSCLC. Out of 18 mutated patients 10(55.56%) had deletion in Exon 19, resulting in loss of codons 746 through 750(delE746-A750), 7(38.89%) had Exon 21(L858R) and 1(5.55%) had Exon 18 mutation(G719C).

**Conclusion:** Mean age of Indian patients is lower compared to west, adenocarcinoma with advanced stage predominated, around 20% of the Indian NSCLC patients harbouring EGFR mutation, mostly female, never smoker, adenocarcinoma subtypes and mutation commonly seen at Exon 19.

**Keywords:** NSCLC, Adenocarcinoma, BAC, EGFR

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