

ABSTRACT

Lung Malignancies are leading cause for cancer incidence and mortality. They show all rising trend in the developed and the developing countries. Lung cancers all seen mostly in the males, but due to the changing life style and few other genetic factors it is also seen to increase in the females. Generally the older age groups are affected.

Lung malignancies are divided into NSCLC and SCLC. Further the NSCLC are divided into Adenocarcinomas and Squamous Cell Carcinomas. Of late this subtyping has become essential for various reasons of which the newer treatment modalities is one (targeted therapy). Generally, Lung cancers can be diagnosed by radiological, Pathological and on clinical basis. To talk about the pathological methods adopted in the diagnosis of lung cancer, firstly cytology i.e. Sputum analysis, Bronchial lavage and washings or FNAC biopsies can be opted. Other method used is histopathological diagnosis which includes TBLB AND EBUS. Diagnosis on these samples are quite difficult may be due to its small size and adequacy problems. For such cases where cytology or histopathology (H&E) is not sufficient for the diagnosis, IHC is used. With the help of IHC, the poorly differentiated NSCLC can be subtyped.

Normally, a panel of markers are used which includes (TTF-1, NAPSIN, CK5/6, and P63) for adenocarcinoma and Squamous Cell Carcinoma.

Important inclusion in the new WHO (2015) is the Mutational analysis. Lung malignancies have various mutations (Kras, AIK, EGFR). The identifications of these mutations help in the newly developing treatment modalities (targeted therapy)

In our study titled “Histopathological and immunohistochemical analysis of NSCLC with special emphasis on EFGR mutational status” 50 cases were selected which include NSCLC, Adenocarcinoma and Squamous cell Carcinoma, a panel of 4 markers were used (TTF-1, NAPSIN< P63, CK5/6). We ultimately derived 28 Adenocarcinomas and 22 Squamous Cell Carcinomas. The intensity and the proportion score for each were also analyzed along with the clinical and radiological features. In all the IHC proved adenocarcinomas, EFGR study was conducted on 21 cases and 17 cases showed the mutation positivity.

In conclusion, although it is cumbersome ,a more complete and thorough examination and sub typing of poorly differentiated NSCLC's is possible by combining H and E , IHC study and mutation specific IHC marker study in proven adenocarcinoma cases of small lung biopsy specimens.

Key words: Lung Carcinoma, Adenocarcinoma, Squamous cell carcinoma, Non small cell lung carcinoma, Epidermal growth factor receptor.