

Lung cancer adenocarcinoma patients benefit from personalized treatment

Summary

Adenocarcinoma is the most common type of non-small cell lung cancer. This article from [Care Across](#) explores the important benefits from the latest research on targeted drugs.

Article

Lung cancer is the leading cause of cancer death among men and women in the western world. Historically, lung cancer is divided by histological criteria into two major categories:

- Small Cell Lung Cancer, and
- Non-Small Cell Lung Cancer (NSCLC).

NSCLC includes 3 cell types:

1. adenocarcinoma,
2. large cell and
3. squamous cell carcinoma.

Adenocarcinoma is the most common type of non-small cell lung cancers, and the one with several molecular changes which have been recently identified. About 50% of adenocarcinomas express at least one molecular change (biomarker) which identifies the gene mutation that drives the lung cancer

Lung Adenocarcinomas: latest research on targeted drugs

The treatment strategy for adenocarcinomas has changed over the last few years. Chemotherapy used to be the standard of care for all adenocarcinoma patients. Today, a significant percentage of these patients who express molecular biomarkers can be treated by novel drugs, which are called “targeted drugs” and allow for personalized treatment.

Erlotinib, Gefitinib and lately Afatinib are targeted agents which target the EGFR mutation. This mutation is present in 10-14% of the western population, although it is much more frequent among Asian people (50-60%). It is mostly present in non-smoking females.

Crizotinib is also a targeted drug, which targets the ALK fusion. ALK fusion is present in 6-8% of adenocarcinoma patients, mostly in younger non-smoking patients. Recently, Crizotinib was found to effectively target patients who have the ROS1 mutation, which is present in 2% of all adenocarcinomas.

Benefits for patients and future developments

The above targeted agents have proven particularly effective for the subset of patients with lung adenocarcinoma who carry these specific molecular changes. These patients enjoy the benefit of longer life without major side effects, and improved quality of life.

Other targets exist (such as HER-2, BRAF, c-Met, RET) and may be useful in the future. KRAS is the most common gene mutation in patients with lung adenocarcinoma, especially among smokers. There is not, at the present time, a targeted agent which is effective against this target.

The field of targeted or personalized treatment is under intensive research, and includes some of the latest developments in modern oncology.

This article was originally posted by Paris Kosmidis, [Care Across](#) Chief Medical Officer, and past ESMO President

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