

A Review Article on Lung Cancer Diagnosis & Treatment

Poonam Jaggi*

Poonam Jaggi, Department of Amity Institute of Biotechnology, Amity University, UP, Noida, New-Delhi, India

Review Article

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*For Correspondence

Poonam Jaggi, Department of Amity Institute of Biotechnology, Amity University, UP, Noida, New-Delhi, India. Tel: 8130625148.

E-mail: Pnm.jaggi@gmail.com

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ABSTRACT

[Lung cancer](#) is the main cause of death in the United States and around the world. The two types of lung cancer are non-small cell lung cancer and small cell lung cancer (around 15%). In spite of advances in early diagnosis and standard treatment, non-small cell lung cancer is regularly analysed at advanced stages and has a poor prognosis. The treatment and prevention of lung cancer are major needs that can most likely be enhanced by a better understanding of the molecular process in cancer and development of cancer. Non-small cell lung cancer can be characterised into three subtypes: squamous-cell carcinoma, adenocarcinoma, and substantial cell lung cancer. Smoking causes a wide range of lung cancer, however, is most firmly connected with small cell lung cancer and squamous-cell carcinoma; adenocarcinoma is the most well-known in patients who have never smoked

INTRODUCTION

Epidemiologic studies demonstrating a relationship between family history and an increased risk of lung malignancy gave the primary evidence of host susceptibility. [Lung cancer](#) vulnerability and risk also are enhanced in inherited cancer syndromes caused by uncommon germ-line mutations in p53 retinoblastoma and other genes and in addition a germ-line mutation in the epidermal growth factor receptor gene [1-10,11]. More recently, three vast genome wide societies' studies recognised a relationship between single-nucleotide polymorphism (SNP) variation at 15q-15q and vulnerability to lung disease. The locale of the SNP variation was recently connected to [lung carcinogenesis](#) and incorporates two genes encoding subunits of the nicotinic acetylcholine receptor alpha, which is managed by nicotine presentation [12-20]. [Lung-disease](#) vulnerability and risk increment with lessened DNA repair capacity that results, for example, from germ-line alteration in nucleotide extraction repair genes such as ERCC1. Enhanced expression of DNA synthesis and repair genes, including RRM1 and ERCC1, in [Non-small cell lung cancer](#) relates with better prognosis generally, however no advantage from platinum-based chemotherapy presents gene abnormalities required in the development of various histologic types of lung cancer [21-25,20].

In order to create awareness among the people, group of physicians and consultants unite to form a [society](#) or an organization. The main aim of these societies is to counsel and create awareness among the victims of Cancer as well as healthy personnel. Major societies like [United Cancer Research Society](#) aims to improve public awareness in cancer health, preventing, detecting and treating this diseases and the advancement of quality standards to enhance patient care [26-30]. [Senologic International Society \(SIS\)](#) aims on bringing along the national societies of Senology around the world and improving the information and quality of cancer health assistance worldwide. [Canadian Society of Nephrology](#) aims to deals with the physiology and diseases of the kidneys. [kidney cancer Association](#) charitable organization involved in providing support to cancer patients promoting the advances in the diagnosis and treatment of cancer diseases. The main objective of these societies is to disseminate the

scientific knowledge to oncologists so that they can provide better service to the patients and work together to reduce the risk of cancer problems [31-39].

Open Access literature plays a key role in proving the information and current researches across the globe. [Journal of Lung Cancer Diagnosis & Treatment](#) aims to provide individuals and organizations with the most recent information on ways to prevent Lung cancer, epidemiology, and views on what causes lung cancer, pathology, clinical assessment, surgery, chemotherapy, radiotherapy and other treatment modalities and also many conferences like Global submit on [Cancer Diagnostics](#) where an abstract entitled Smoking Cessation in Lung Cancer illustrated The greatest risk factor for [lung cancer](#) is smoking. Smoking addiction is one of the challenging problems that should be solved in lung cancer patients [40-49]. Including lung cancer, in cancer patients, quitting smoking has several benefits. However, implementation of smoking cessation clinics in oncology practices is inadequate and many lung cancer patients still smoke despite cancer diagnosis. [Journal of Cancer Science & Therapy](#) is an open access [peer reviewed](#) journal serving the International Scientific Community. This journal offers an [open access](#) platform to the authors to publish their research outcome and thus help in promoting Cancer and Oncology research.

[Journal of Clinical & Experimental Oncology](#) is a leading provider of information on cancer diseases and novel methods of treatment followed. The above mentioned Open access journals on cardiology are the peer-reviewed journals that maintain the quality and standard of the journal content, reviewer's agreement and respective editor's acceptance in order to publish an article. These journals ensures the barrier-free distribution of its content through online open access and thus helps in improving the citations for authors and attaining good [journal impact factors](#).

Causes of Lung Cancer across the Globe

Globally in 2015, lung disease diagnosed in 1.8 million individuals and brought about 1.6 million deaths [50-58,15,25]. This makes it the most widely recognized reason for cancer-related deaths in males and second most common in females after [breast cancer](#). The most widely recognized age at diagnosis is 70 years. 17.4% of individuals in the United States diagnosed to have lung cancer survive five years after the diagnosis, while results are more awful in the developing world [59-65].

Smoking, especially of cigarettes, is the main cause of [lung cancer](#). Smoke from cigarette contains approximately 73 known cancer-causing agents, including benzo[a]pyrene.[24] NNK, 1,3-butadiene and a radioactive isotope of polonium, polonium-210. Passive smoking refers to the inhaling of smoke from another's smoking is a reason for lung cancer in non-smokers [66-72]. A passive smoker can be characterized as somebody living or working with a smoker. Professor [George G Chen](#) from Chinese University of Hong Kong, China presented in 5th World Congress on Cell & Stem Cell Research about Thromboxane in smoking-induced lung carcinogenesis [73-80]. Dr. Sule Akcay from Baskent University Faculty of Medicine, Turkey authored an article [Smoking Cessation in Lung Cancer](#) depicting that smoking is the greatest risk factor for the occurrence of lung cancer [81-90].

Apart from the articles, presentation at conferences, symposiums, workshops also yield a better exposure to health information and advanced technologies that are being invented in the present generation [119-123]. [16th Global Annual Oncologists Meeting](#) held in April 24-25, 2017 Dubai, UAE and [Oncologists Meeting](#) at Cologne, Germany will deal with Prevention, Diagnosis, and Treatment diseases of the Organ-related Cancers and its innovative techniques [91-98].

Global Summit on [Oncology & Cancer](#) held in May 25-27, 2017 Osaka, Japan. This Global Cancer Conference will have three days of discussions on methods and strategies related to management, quality improvement of Cancer as well as to explore the new ideas and concepts on global scale and the topics include lung cancer, breast cancer, bone cancer, blood cancer, cervical cancer, colon-rectum cancer, prostate cancer, thyroid cancer [100-112].

Novel Technologies in Lung Cancer

As the Lung Cancer have turned out to be more common, there are numerous experts who are trained particularly in detecting, treating and guiding the prevention of Lung cancer and these experts are well known as Pulmonologist [113-125]. [Molecular profiling](#), including the profiling of qualities and proteins, to guide treatment may enhance the clinical result in patients with [non-small-cell lung cancer](#). Microarray techniques that profile the

expression of a large number of genes simultaneously can quantify this lung cancer heterogeneity across the globe [126-135]. [Gene-expression](#) profiles associated with subtypes of non-small cell lung cancer and with reduced recurrence-free or general survival of patients have been identified.

[Profiling](#) of genomic and mRNA expression gives an inadequate picture of the heterogeneity of [non-small cell lung cancer](#). Levels of mRNA don't generally associate with protein levels and don't give information on [protein-protein interactions](#) or post-translational changes, for example, phosphorylation that might be critical for controlling protein activity. In this manner, [protein-based profiling](#) is probably going to be essential in complexity of protein signaling systems and developing molecular signatures that determines a reaction to treatment [136-140].

CONCLUSION

Lung disease is most conspicuous and prevalent in the USA. Numerous advanced technologies have been developed to decrease the mortality rate because of [Lung cancer](#). Epidermal growth factor receptor (EGFR) gene modifications occur in various human cancers; thusly, the recognition of EGFR mutations could prompt to early cancer detection of EGFR mutations [141-145]. In contrast with direct [DNA sequencing](#) detection method, this technique depends on allele-specific amplification (ASA), recombinase polymerase amplification (RPA), peptide nucleic acid (PNA), and SYBR Green I (SYBR), referred to as the AS-RPA-PNA-SYBR (ARPS) system [146-148]. All this information can be retrieved in open access health care literature which shows the novel techniques and innovative researches taking place in the area of lung diseases. Many professionals share their views; suggestions through the [open access literature](#) which can be accessed by all in order attain knowledge on lung diseases. Although lung disease is the major cause for deaths in USA, the developed technologies, awareness through the literature have given hope to the patients for reducing the mortality rate [149-155].

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