



### **Dr Sewanti Limaye**

MBBS, MD, MS (Columbia University, NY, USA), Director Medical & Precision Oncology, Director Clinical and Translational Oncology Research, Sir HN Reliance Foundation Hospital and Research Centre, Mumbai, India, Ex Consultant Medical Oncology Dana Farber Cancer Institute, Harvard Medical School, Ex Consultant Medical Oncology, Columbia Univ Medical Center USA Founder

#### **Q What are the latest advances in lung cancer you are excited about?**

A. Lung cancer has seen a paradigm shift in management over the last decade. A higher role of immunotherapy and targeted therapy in lung cancer treatment has been observed. It is also better understood now that there are two major categories of lung cancer: Driver mutation-positive lung cancer and Non-driver mutation-positive lung cancer. Driver mutation-positive lung cancer is mostly seen among non-smokers, and these cancers respond better to targeted therapy. On the other hand, Non-driver mutation-positive lung cancer is mostly seen in smokers and responds better to immunotherapy.

Apart from this, there has been a realisation over the last decade that there are different genomic signatures for lung cancers. If you can characterise them at a molecular level in a better way, you will then be able to treat them better. Diagnostic genomic testing has become much more nuanced and much better understood in the last few years. Biomarker testing or genomic testing is imperative in lung cancer treatment and without this the treatment of lung cancer would be considered sub-optimal.

#### **Q How effective is chemotherapy as a treatment option? Is it used in conjunction with other modalities?**

A. Even though there is substantial negativity about chemotherapy use in cancer management, due to the toxicities involved, we believe that chemotherapy as a whole should not be abandoned. This is mainly because there are good ways of delivering chemotherapy to the patient. In the case of lung cancer specifically, the chemotherapy utilised

is usually very gentle on the patient and is well-tolerated. Lung cancer chemotherapy, especially for adenocarcinoma lung, consists of carboplatin and pemetrexed and can control the disease to a large extent. Hence, chemotherapy could be economical and effective for the lung cancer treatment and should not be looked at from a negative lens. Yes, chemotherapy can be used in conjunction with other modalities. It can be utilised with targeted therapy or immunotherapy to enhance their effects. Moreover, a combination of chemotherapy with other modalities can even be well-tolerated and delivered safely even to elderly patients with lung cancer, provided delivered in the right hands. My advise would be not to fear chemotherapy. If a patient needs it, they should approach it with the right preparation and care. When delivered correctly, chemotherapy has been shown to improve survival for lung cancer.

#### **Q How effective is immunotherapy in the treatment of the condition?**

A. The advent of immunotherapy, in particular the immune checkpoint inhibitors targeting the PD1/PDL1 axis, has brought about a paradigm shift in the management of lung cancer and transformed the outcomes to a great extent. Important thing is to understand that no therapy should be given blind. Biomarker testing is most critical to understand what is going to work for someone. One has to be as precise and personalised in the treatment delivery as possible. Immunotherapy in lung cancer, does not work well for driver mutation positive disease. Before prescribing this treatment to anyone, the patient must be tested genomically. Only after making sure that the patient is driver mutation negative, should immunotherapy be offered as a treatment. The biomarker for immunotherapy in lung cancer are receptors called Program Cell Death Lygand 1 (PD-L1). A PD-L1 percentage of more than 50% suggests a high chance of responding to immunotherapy treatment alone, without the need for combining with chemotherapy. Hence, if the patient is a smoker or former smoker who is driver mutation-negative and has a high PD-L1 percentage, they can then be prescribed immunotherapy based treatment. Lung cancer is the poster child of Precision Oncology or Personalised Therapy in Oncology and understanding the biology at the start of therapy and also as the treatment progresses longitudinally during a patient's lifetime remains most critical.