Saudi lung cancer management guidelines 2017: Improving lung cancer care in Saudi region

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Notwithstanding advancements in screening tests, genetic biology, diagnostic methods and targeted therapies, lung cancer remains a leading cause of death all over the world.[1] Nevertheless, first steps have been taken toward new treatment paradigms, and during last years, we have obtained promising results for our patients. It is very important to remember that this is a very complex disease that involves several medical disciplines; therefore, multidisciplinary teams must be involved to improve survivorship and quality of life in our patients.

The majority of our efforts must be done in the prevention and early diagnosis of this lethal disease. Recently, has been demonstrated that screening using a low-dose computed tomography scan can be recommended in high-risk patients, decreasing mortality rate by 20%.[2,3] Improvements in radiotherapeutic techniques and surgical approaches are giving our patients the possibility of cure in early stage disease. But unfortunately, a big number of patients will develop metastases. Besides, the positive results of chemotherapy in this population, and the possibility to combine antiangiogenic drugs in second line, the therapeutic landscape has changed radically during the last decades. Especially the implementation of molecular targeted therapies in nonsmall cell lung cancer (NSCLC) harboring oncogenic drivers was an important step forward. The usual suspects epidermal growth factor receptor[4-6] and anaplastic lymphoma kinase,[7] are nowadays druggable markers with an important number of drugs approved in different scenarios, naïve, and pretreated patients. New drugs for targets such as BRAF, MET, and NTRK are arriving accelerating the approval process in an amazing way. The last entry in the pantheon of Lung Cancer treatment is Immunotherapy. Indeed, the development of checkpoint inhibitors, which modulate immune responses, have given rise to new compounds, which offer a new fighting mechanism for patients without oncogenic driver mutations. PD-1 and PD-L1 act as targetable checkpoints for different drugs such as nivolumab,[8,9] pembrolizumab,[10] or atezolizumab.[11] Immunotherapy has been recently approved for the first line treatment.[12]

Unfortunately, small cell lung cancer is still refractory to the new treatment options, and only chemotherapy remains the current standard of care.

The new landscape of lung cancer treatment seems to be the combinatory strategy of immunotherapy with several compounds, chemotherapy, targeted therapies, and also immunotherapy. Langer *et al*.[13] presented hopeful results combining chemotherapy plus immunotherapy in NSCLC, and also several early trials involving immune checkpoints have been reported. Moreover, new strategies of personalized medicine based on molecular information and characterization of the tumor have an important impact in the diagnosis and targeted treatment. New concepts as liquid biopsy and Next-Generation Sequencing

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start to be used in our clinical practice, not only in diagnosis but also in monitoring responses and discovering resistance mechanisms.[14,15]

Homogenization, multidisciplinary work, and scientific evidence based treatment are mandatory to integrate the biological knowledge and drug development. Guidelines are a necessary tool to treat our patients in the proper way. The authors of the current Saudi guidelines aims to collect latest evidence in the management of lung cancer in a trend to convert the complexity of scientific research into recommendations for using in everyday practice.[16] These guidelines provide an excellent compendium from first to later steps in lung cancer. Its principal function is to assist the physicians to make appropriate medical decisions. An extraordinary multidisciplinary effort was made to improve the quality of care of our patients in this part of the world.

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