

Characterizing Lung Cancer in Libya: A Stepping Stone toward a Better Lung Cancer Care in the Country

Lung cancer is a worldwide public health problem with the highest mortality among cancer-related death. Overall care of lung cancer has improved with nationwide smoking cessation programs, better radiological and molecular diagnostic modalities, utilization of multidisciplinary team (MDT) approach in management, and better molecular therapeutic targets.^[1] Unfortunately, such advancements lag in countries with limited resources and areas with war and conflict zones. Indeed, the problem's scope is not even known in most of these countries due to various constraints. In this issue of IJMBS, Eldukali *et al.*^[2] report on the clinical and epidemiological characteristics of lung cancer in the eastern part of Libya serves as the first milestone in addressing the magnitude of the problem in a country whose health-care system has been fragile and under-resourced for decades. The first and foremost observation from this report is the limitation of a single-center report of data (all data were extracted from the medical records of Benghazi Medical Center), which is likely due to low nationwide epidemiological data collection in the country. This emphasizes the desperate need for an initiative to establish a modern Libyan Lung Cancer Registry, where all patients diagnosed with primary lung cancer in the country to be reported. The registry should be complete, comprehensive, and up-to-date and meets the international standards.^[3] Registry data should be evaluated regularly for quality, completeness, and timeliness. This should run parallel with a program to train registry staff to ensure good-quality data and adequate data analysis, interpretation, and dissemination.^[4,5] Liaison with the National Pathology Laboratory, the centralized civil registry, clinical departments, and hospitals is vital to ensure high data completeness.^[6]

Delay in lung cancer diagnosis adversely affects survival; rapid diagnosis and treatment are crucial for enabling improved patient outcomes.^[7]

Eldukali *et al.* show that most patients are diagnosed at the advanced stage of disease when therapeutic options are limited and overall survival is dismal. Among the most important reasons for such a diagnostic delay is the lack of coordinated patient care resulting from poor communication and referral procedures between various health-care teams and facilities. This is mainly observed between primary and specialist care. It is a striking observation of this report that most patients (69.4%) are initially diagnosed and treated in neighboring countries, a significant reason being inadequate health-care infrastructures, resulting in increasing distrust among patients toward the health-care system in their own country. The long distances to facilities with oncology units (evidenced by the fact that most lung cancer patients in the eastern part of Libya are being referred to Benghazi), the long waiting times to be seen by specialists, and the lack of proper palliative care are frequently encountered problems in the country and add burden to the care of these patients.^[8] The fact that almost half of the Libyan men are smokers is not surprising and suggests an inadequate public health awareness of the risk factors of lung cancer and low public health awareness campaigns and smoking cessation programs in the country. The improved understanding of the biology and molecular subtypes of nonsmall cell lung cancer has led to more biomarker-directed therapies for metastatic disease patients, which has improved overall survival for patients with metastatic nonsmall-cell lung cancer.^[9] Among the striking findings in the current study by Eldukali *et al.* are that only 18 of the lung cancer cases underwent molecular testing (abroad) and the high rate of unknown histologic subtype.

Furthermore, the pathological staging was performed in only 7.6% of the total cases. These findings reflect the poor laboratory infrastructure and emphasize the importance of improving the laboratory and

procedural diagnosis of lung cancer patients in Libya. Furthermore, they also highlight the reliance on older therapeutic modalities and the lack of current standard of care therapies of such cancer in the country.^[10]

Standardizing lung cancer patients' care through national clinical guidelines and the utilization of the MDT approach is of paramount importance and a crucial step toward better care of these patients. MDT approach for the care of lung cancer patients has been shown to improve survival of these patients, reduce the waiting time to treatment, improve the adherence rate to guideline recommendations, improve the satisfaction with care, and result in the correct use of resources and an increasing number of patients undergoing treatment with curative intent.^[11-13] Even for patients with inoperable lung cancer, MDT care is associated with an increase in the proportion of patients being staged, receiving chemotherapy, and improvement of survival in patients with late disease stages.^[12] Another benefit of the MDT approach for lung cancer patient care is that it provides an educational opportunity for doctors in training. The meetings can be arranged every week and involve the gathering of respiratory physicians, cardiothoracic surgeons, medical oncologists, a radiation oncologist, a palliative care physician, a radiologist, a pathologist, a nuclear physician, and a specialist lung cancer nurse, as well as doctors receiving specialist training.^[11] The report by Eldukhali *et al.* has also exposed the need for the estimation of accurate lung cancer statistics, including the age-standardized incidence and mortality rates and the survival rates rather than reporting only the crude rates.

In conclusion, there are considerable hurdles in the international standard of care of lung cancer patients in Libya, starting with awareness and smoking cessation programs, lung cancer screening program in appropriate candidates, progressing through expedited referral, prompt diagnostic and staging studies, molecular characterization, and ending with MDT discussions and management of these patients. All these services need to be under a national program with proper auditing and refinements of these services. Although these hurdles

seem unsurmountable, all is not bleak and dark. Eldukali *et al.* showed in this report that with hard work, dedication, and vision of a better tomorrow, a lot could be achieved with one small step at a time. We hope this report will energize more health-care workers to aspire toward better care of lung cancer patients. This work is the first milestone, but we are confident that it will lead to other building blocks and will not be the last toward a better future of lung cancer patients in Libya.

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