EDITORIAL

EDITOR'S MESSAGE

Rethinking Lung Cancer Through Screening, Early Detection and Precision Oncology

Repensar o Cancro do Pulmão através da Triagem, do Diagnóstico Precoce e da Oncologia de Precisão

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Lung cancer is entering a new phase in its history. For decades, it has been defined by late-stage diagnosis, limited therapeutic options, and poor survival outcomes. Today, the emergence of lung cancer screening and precision oncology offers a realistic opportunity to change this narrative.

The low dose computed tomography (LDCT) screening represents, in my opinion, one of the most important developments in thoracic oncology. Evidence from randomised trials demonstrated a reduction in lung cancer–specific mortality in high-risk populations. This knowledge has been incorporated into recommendations from international societies, which now endorse screening programmes. Yet, implementation remains slow and fragmented. Screening continues to be underutilised, often limited to pilot programmes or highly selected settings, reflecting barriers at various levels of healthcare organisation, funding, and political prioritisation.

Screening should not be regarded as a purely radiological intervention. Its value lies in the creation of a pathway that enables early diagnosis, accurate staging, and timely access to curative-intent treatment.

Early-stage non-small cell lung cancer (NSCLC), once considered the exclusive domain of surgery, is now a rapidly evolving therapeutic stage. While surgical resection remains the cornerstone of cure, it is no longer sufficient to treat early-stage disease. The incorporation of systemic treatments — chemotherapy, immune checkpoint inhibitors and targeted therapies in peri-operative systemic therapies, have reshaped expectations for patients with potentially curable disease.

Molecular and immunohistochemical testing is consequently fundamental in early-stage disease and raises important practical and conceptual questions. Broad molecular profiling, using next-generation sequencing, is now recommended by major guidelines to guide treatment selection, and to refine prognosis and facilitate clinical trial enrolment. However, access to high-quality molecular diagnostics remains uneven, and turnaround times may be incompatible time in peri-operative decision-making. These limitations highlight the persistent gap between what is scientifically possible and routinely achievable.

From a clinician's perspective, the increasing complexity of lung cancer care reinforces the central role of Multidisciplinary tumour boards. Screening programmes, early-stage treatment strategies, and precision-based approaches can only function within integrated care models that bring together respiratory medicine, radiology, pathology, thoracic surgery, medical oncology, radiation oncology, and molecular diagnostics.

Lung cancer is at a pivotal moment. Screening offers the possibility of diagnosing disease at a curable stage, early-stage management is being transformed by systemic therapies, and precision oncology is extending its influence well beyond advanced disease. The challenge now lies in implementation: ensuring that guideline-recommended strategies are accessible, coordinated, and delivered consistently across healthcare systems. If we succeed, we may finally begin to alter the trajectory of a disease that has for too long been synonymous with late diagnosis and poor outcomes.

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