

Based on the most recent WHO estimate, lung cancer, the leading cause of cancer-related mortality, accounts for approximately 1.69 million deaths worldwide in 2015. Early detection and treatment of pulmonary carcinoma show significant improvement of patients' survival, thus lung cancer screening is of great importance. The incidence of pulmonary nodules (PNs) is increasing as a result of the widespread use of multislice spiral computed tomography and low dose computed tomography (LDCT). Accordingly, the diagnosis and management of large number of indeterminate pulmonary nodules remain a challenge. Our book consists of the following five chapters: (I) lung cancer screening; (II) ground-glass opacity and lung cancer; (III) pulmonary nodules and lung cancer; (IV) pulmonary nodules diagnosis; (V) treatment of pulmonary nodules.

Notwithstanding the encouraging results of the National Lung Screening Trial (NLST), replicating the 20% lower mortality demonstrated by NLST in practice of LDCT lung cancer screening in the real world remains a challenge, considering the risk of radiation, over-diagnosis bias, false positives and cost benefit. Comprehensive understanding of the hurdles and differences should be the first key step. In the meantime, some new issues such as lung cancer probability of incident PNs, potential biomarkers, low-risk individuals in screening have been proposed and investigated.

Ground-glass opacity nodules (GGNs), the subtype of PNs, attract clinical attention since it is demonstrated that GGNs have more possibility of histology of adenocarcinoma. Natural course, follow-up, prediction of growth, surgical resection, etiology, and correlation between radiology and pathology of GGNs have been further discussed in our book.

Except for the conventional examination methods including CT, PET/CT for PNs, several advanced technologies have emerged for acquiring PNs' imaging information adequately. Examples of such include radiomics, a developing field aimed at deriving automated quantitative imaging features from medical images that can predict nodule and tumour behavior non-invasively, dynamic contrast-enhanced CT (DCE-CT) and dual-energy CT (DECT).

The diagnosis of PNs has increasingly relied on minimally invasive tissue sampling techniques, such as transbronchial biopsy, endobronchial ultrasound (EBUS) or endoscopic ultrasound (EUS) needle aspiration, and transthoracic image guided core needle biopsy. Each with their own features, these modalities have been proven invaluable for the rapid and safe acquisition of tissue used for the diagnosis, staging, and molecular testing of PNs.

The management of PNs should begin with estimating the probability of cancer. For patients with a relatively low probability of cancer, regular follow-up with CT is recommended. For those with a high probability or diagnosis of lung cancer, radical surgical resection or radical radiotherapy is considered.

Our book discusses recent advances in the above issues of PNs in order to help clinical physicians have a comprehensive understanding of PNs and make correct decision in practice.

Tangfeng Lv^{1,2}, Yong Song^{1,2}

¹*Department of Respiratory Medicine, Jintling Hospital, Nanjing 210002, China;*

²*Nanjing University Institute of Respiratory Medicine, Nanjing 210002, China.*

(Correspondence to Yong Song, Email: yong_song6310@yahoo.com)