Preface on Lung Cancer Management—The Next Decade

The management of lung cancer has evolved very rapidly in the past decade. The introduction of targeted and immunotherapies have significantly improved outcomes especially in advanced stage disease (1), endobronchial technology to improve early diagnostic yields (2), robotic surgery to perform challenging surgery in more precise manner (3), and liquid biopsies to diagnose and guide treatments. However, these past great leaps in lung cancer management, as Sir Winston Churchill once said, "... is not the end. It is not even the beginning of the end. But it is perhaps, the end of the beginning."

In this special series of "Lung Cancer Management—The Next Decade", we have invited some of the top clinician scientists in the field, many of them pioneers and trailblazers in their topics, to provide us with their unique perspectives. The articles cover the latest developments in: (I) the use of circulating tumour DNA and the potentials it holds [Lam et al. (4)]; (II) the current and future technologies of using robotic bronchoscopy [Ho et al. (5)] and cone beam computed tomography (CT) scan for accurate tissue biopsy acquisition [Verhoeven et al. (6)]; (III) the state of the art in non-invasive and minimally invasive surgical approaches to treat lung cancer by transbronchial ablation therapies [Chan et al. (7)] and uniportal robotic surgery [Gonzalez-Rivas et al. (8)]; (IV) the current use of targeted therapy with preview to how it might change in the next decade [Li et al. (9)]; and (V) other technologies such as artificial intelligence [Bardoni et al. (10)] and 3D printing [Aravena et al. (11)] that could revolutionize how lung cancer is managed. We hope you will enjoy reading this special series, where leading clinician scientists dare to push the boundaries and dream of what might become standard care in their own subspecialty or area of research interest in the next golden decade.

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References

- 1. Deng H, Liu J, Cai X, et al. Radical Minimally Invasive Surgery After Immuno-chemotherapy in Initially-unresectable Stage IIIB Non-small cell Lung Cancer. Ann Surg 2022;275:e600-2.
- 2. Ng CS, Yu SC, Lau RW, et al. Hybrid DynaCT-guided electromagnetic navigational bronchoscopic biopsy. Eur J Cardiothorac Surg 2016;49 Suppl 1:i87-8.
- 3. Zhao ZR, Ng CS. Robotic lobectomy: an essential addition to the minimally invasive armory. Video-assist Thorac Surg

2016;1:4.

- 4. Lam WKJ, Bai J, Ma MJL, et al. Circulating tumour DNA analysis for early detection of lung cancer: a systematic review. Ann Transl Med 2024. [Epub ahead of print]. doi: 10.21037/atm-23-1572.
- 5. Ho E, Hedstrom G, Murgu S. Robotic bronchoscopy in diagnosing lung cancer—the evidence, tips and tricks: a clinical practice review. Ann Transl Med 2023;11:359.
- 6. Verhoeven RLJ, Kops SEP, Wijma IN, et al. Cone-beam CT in lung biopsy: a clinical practice review on lessons learned and future perspectives. Ann Transl Med 2023;11:361.
- 7. Chan JWY, Siu ICH, Chang ATC, et al. Review on endobronchial therapies—current status and future. Ann Transl Med 2024. [Epub ahead of print]. doi: 10.21037/atm-23-1430
- 8. Gonzalez-Rivas D, Manolache V, Bosinceanu ML, et al. Uniportal pure robotic-assisted thoracic surgery—technical aspects, tips and tricks. Ann Transl Med 2023;11:362.
- Li MSC, Mok KKS, Mok TSK. Developments in targeted therapy & immunotherapy—how non-small cell lung cancer management will change in the next decade: a narrative review. Ann Transl Med 2023;11:358.
- 10. Bardoni C, Spaggiari L, Bertolaccini L. Artificial Intelligence in Lung Cancer. Ann Transl Med 2024. [Epub ahead of print]. doi: 10.21037/atm-22-2918
- 11. Aravena C, Gildea TR. Patient-specific airway stent using three-dimensional printing: a review. Ann Transl Med 2023;11:360.



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