



Pulmonary Oncologist—An Idea Whose Time has Come?

Sandeep Tandon¹ Pavankumar Biraris¹ Maheema Bhaskar¹

¹Department of Pulmonary Medicine, Tata Memorial Centre, Homi Bhabha National Institute, Mumbai, India

Address for correspondence Dr. Maheema Bhaskar, MD, Department of Pulmonary Medicine, Tata Memorial Centre, Homi Bhabha National Institute, Mumbai, India (e-mail: drmab11@gmail.com).

Ind J Med Paediatr Oncol

The plight of the overburdened medical oncologist (MO) in India, the inequitable distribution, and the inaccessibility of health care resources to patients in small towns has been widely published by oncologists in India.^{1–5} The low ratio of oncologists to cancer patients in India has been emphasized with the estimate of one oncologist for 2,000 cancer patients.⁶ Mathew estimates that in India there are 1,500 clinical oncologists and that the ratio of new cancer cases per clinical oncologist is 677.⁷ Wilson et al estimate that the number of cancer cases necessitating first-line chemotherapy treatment in the world will increase by 53%, from 9.8 million in 2018 to 15 million in 2040. Sixty-seven percent of such patients will reside in low- or middle-income countries, with India having over 1.1 million new cases per year needing chemotherapy. She estimates that India will need at least 7,300 oncologists by 2040 to address such a large number of cancer patients in the near future.⁸

Thus, such a lack of access to trained MO leads to the delivery of chemotherapy by those who are not formally trained in the specialty of medical oncology. Pulmonologists too, despite being less in number, are prescribing chemotherapy for treating lung cancer. Majority of them have institutional support by pulmonologist-led lung cancer clinics that are based on the work experience of a group of pulmonologists trained in lung cancer treatment. However, to the best of our knowledge, neither any structured curricula exist nor are there any clear pointers from regulatory medical bodies regarding the prescription of chemotherapy by non-MOs in India. As pulmonologists working in a tertiary oncology center, we have identified the unique and extremely valued role of our team as a member of a multidisciplinary oncology team, which we have highlighted in our review article “Pulmonary Oncology-Scope of the Pulmonologist”

(under review by this journal). As a possible solution to the increasing need for MO, Gulia et al have proposed a reorganization of chemotherapy services in India.⁹ We propose an alternative solution to this health challenge.

GLOBOCAN 2020 has estimated globally 2.2 million new lung cancer cases and 1.8 million deaths. Lung cancer is the second most frequently diagnosed cancer and the leading cause of cancer death in 2020. It represents approximately 1 in 10 (11.4%) cancers diagnosed and 1 in 5 (18.0%) deaths.¹⁰ Lung cancer is a major health concern in India,^{11,12} with most patients presenting in advanced stage at the time of diagnosis, requiring palliative chemotherapy. Many of these patients are assessed by MOs and referred back with chemotherapy advice protocol to treating physicians who are often not formally trained in cancer chemotherapy.

Pulmonologists have their presence even in the smallest towns due to well-structured basic pulmonology training in multiple centers in India. They are often the first point of contact for lung cancer patients due to respiratory symptoms. The coexistence of comorbidities like chronic obstructive pulmonary disease (COPD) in lung cancer and chronic respiratory burden in India is concerning too.¹³ Pulmonologists are also involved even in advanced cases due to terminal dyspnea, respiratory failure, or hemoptysis. Access to trained palliative care specialists is also lacking. Their additional and emerging role lies in aiding the treatment of advanced, non-oncologic, chronic non-communicable respiratory diseases like COPD, interstitial lung disease. It is estimated that in India the total number of people who need palliative care (PC) is likely to be 5.4 million people a year with less than 1% of patients having access to PC. India ranks at the bottom of the Quality of Death Index in overall score.¹⁴ The emerging subspecialty of interventional pulmonology too is an integral part of lung cancer

DOI <https://doi.org/10.1055/s-0042-1742638>.
ISSN 0971-5851.

© 2022. Indian Society of Medical and Paediatric Oncology. All rights reserved.

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

care, including diagnostic, staging, therapeutic, and palliative applications. Thus, adequately trained pulmonologists are strategically placed to diagnose, stage, and treat lung cancer ensuring the penetration of care to the remotest regions of India. “Pulmonary oncologists” would be certified pulmonologists additionally trained in onco-pulmonology, interventional pulmonology, palliative care, as well as medical oncology relevant to lung cancer management.

We have initiated a 2-year fellowship program in pulmonary oncology in 2019, the first such university-approved program in India, training pulmonologists in interventional pulmonology and problems unique to oncology. It also trains pulmonologists to work with multidisciplinary tumor boards. However, it currently does not meet the criteria to certify pulmonologists to give chemotherapy.

Keeping this in mind, we propose a super-specialty training after postgraduation in pulmonary medicine in the form of 3-year Doctorate of Medicine (DM) or equivalent program (pulmonary oncology, palliative medicine, and interventional pulmonology) for pulmonologists, to train them in onco-pulmonology, lung cancer staging, chemotherapy, and palliative care through structured curriculum. It consists of dedicated and mandatory training in lung cancer chemotherapy for 1 year under qualified thoracic MOs at tertiary centers having multidisciplinary oncology teams, with 6 months rotation in palliative medicine. Such hybrid programs would create a workforce of certified pulmonary oncologists capable of providing timely diagnosis, management (including palliative care) of lung cancer apart from addressing other pulmonary comorbidities in patients across various socioeconomic strata and, thus, deliver comprehensive pulmonary care in oncology.

Interlinking such pulmonary oncologists to other oncologists and the existing National Cancer Grid via services like Virtual Tumor Boards will enable a quality decentralized treatment of lung cancer in a “hub and spoke” design. This will be accessible to even remote areas of our country especially since most lung cancer patients, due to their symptomatology would at some point interact with a pulmonologist. As oncology services are heading toward specialized niche areas of practice in the form of disease management groups like breast, thoracic, etc. the growing burden of lung cancer can be addressed by utilizing the services and expertise of the yet untapped pulmonologist workforce by empowering them with appropriately certified curriculum-based training in designated centers of expertise. This model could be replicated in all low- and middle-income countries and would reduce the burden on MOs. It would provide better one-stop health care access and comprehensive care of all coexistent respiratory issues or complications that cancer patients often have.

While we put forth this proposal, we do understand that any new concept especially one involving interdisciplinary collaborations or overlap of turfs and “gray zones” is bound to generate criticisms and debate.

The purpose of this article is to subject our concept to intense scrutiny and discussion by pulmonologists, oncologists, policy makers of national regulatory bodies, as it is only by constructive criticism that deficiencies or loopholes can be addressed and potential benefits can be exploited.

We, the authors, felt it is only appropriate to put forth this unique endeavor for a stimulating academic discussion, through one of the most widely read Indian journals in oncology.

Author Contribution and Credit

All authors contributed toward writing the manuscript.

Conflict of Interest

None declared.

References

- 1 Sengar M, Fundytus A, Hopman WM, et al. Medical oncology in India: workload, infrastructure, and delivery of care. *Indian J Med Paediatr Oncol* 2019;40(01):121
- 2 Chaudhuri S, Goel A, Awasthi A, et al. Disparity between metro-centric cancer care and rural outreach in India: situational analysis and future trends in context of developing countries. *J Glob Oncol* 2018;4(Suppl 2):59s–59s
- 3 Pramesh CS, Badwe RA, Borthakur BB, et al. Delivery of affordable and equitable cancer care in India. *Lancet Oncol* 2014;15(06):e223–e233
- 4 Mallath MK, Taylor DG, Badwe RA, et al. The growing burden of cancer in India: epidemiology and social context. *Lancet Oncol* 2014;15(06):e205–e212
- 5 Smith RD, Mallath MK. History of the growing burden of cancer in India: from antiquity to the 21st century. *J Glob Oncol* 2019; 5:1–15
- 6 Noronha V, Tsomo U, Jamshed A, et al. A fresh look at oncology facts on south central Asia and SAARC countries. *South Asian J Cancer* 2012;1(01):1–4
- 7 Mathew A. Global survey of clinical oncology workforce. *J Glob Oncol* 2018;4:1–12
- 8 Wilson BE, Jacob S, Yap ML, Ferlay J, Bray F, Barton MB. Estimates of global chemotherapy demands and corresponding physician workforce requirements for 2018 and 2040: a population-based study. [published correction appears in *Lancet Oncol*. 2019 Jul;20(7):e346] *Lancet Oncol* 2019;20(06):769–780
- 9 Gulia S, Sengar M, Badwe R, Gupta S. National cancer control programme in India: proposal for organization of chemotherapy and systemic therapy services. *J Glob Oncol* 2016;3(03):271–274
- 10 Sung H, Ferlay J, Siegel RL, et al. Global Cancer Statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin* 2021;71(03): 209–249
- 11 Behera D. Lung cancer in India part 1. *Indian J Chest Dis Allied Sci* 2021;63:143–192
- 12 Noronha V, Pinninti R, Patil VM, Joshi A, Prabhash K. Lung cancer in the Indian subcontinent. *South Asian J Cancer* 2016;5(03): 95–103
- 13 India State-Level Disease Burden Initiative CRD Collaborators. The burden of chronic respiratory diseases and their heterogeneity across the states of India: the Global Burden of Disease Study 1990–2016. *Lancet Glob Health* 2018;6(12):e1363–e1374
- 14 Bag S, Mohanty S, Deep N, Salins N, Bag S. Palliative and end of life care in India—current scenario and the way forward. *J Assoc Physicians India* 2020;68(11):61–65