

# Pleura - The quest within

Pleura, while considered the outpost of the lung, has become the subject of intense interest among clinicians and researchers. The last two decades have seen a more in-depth and clear understanding of the pleural pathophysiology, new investigative tools, and ingenious devices for improved patient care. As we step into the third decade of the 21<sup>st</sup> century, we move forward confidently with the assurance that the work in progress will get consolidated as more researchers adopt pleura as their area of interest. The pharmaceutical and device manufacturers have wholeheartedly supported these endeavours, and a wider section of the clinical community is getting better equipped to manage the increasing incidence of pleural diseases and its complexities.<sup>[1]</sup> The Pleural Juggernaut is truly rolling swiftly, smoothly, and safely.

Medical thoracoscopy (MT) has acted as a major fuel in igniting the interest in pleural diseases. It has a lot to owe to the Swedish internist Hans Christian Jacobaeus for its origin, refinement, and extensive description (Jacobaeus operation). From the 1940s onward, with the discovery of streptomycin, the procedure witnessed a temporary decline in its popularity only to then begin its European renaissance in the systematic application for the diagnosis of many pleuro-pulmonary diseases. The excellent diagnostic utility of MT enveloped within a favorable safety profile has made it an attractive procedure for physicians to adapt.<sup>[2]</sup> The relatively easy learning curve<sup>[3]</sup> and the less demanding infrastructure has enabled it to enter the armamentarium of every modern intervention pulmonologist. MT has become a method of choice for investigating undiagnosed exudative pleural effusions, and its therapeutic application is seen, with a high success rate, in malignant pleural effusion and loculated empyema.<sup>[4]</sup>

India has not remained aloof to this development. The urge to inspect the pleura saw several tuberculosis units using their existing fiberoptic bronchoscope as a thoracoscope.<sup>[5]</sup> In the early 1980s, thoracic oncosurgeons (personal communication Dr. Raman Deshpande) and pediatric surgical departments had already put the rigid thoracoscope to widespread use for a variety of video-assisted procedures.<sup>[6]</sup> The launch of semi-rigid thoracoscope in 2008 paved the way for pulmonary physicians to adapt and advance their skills in managing pleural diseases. Apex institutes in India published their successful experience with the procedure<sup>[7-10]</sup> and then went on to push the boundaries by removing foreign objects,<sup>[11]</sup> carrying out pleural cryobiopsies<sup>[12]</sup> and even performing lung biopsies through this route.<sup>[13]</sup>

Like any other medical procedure, MT too needs its checks and balance and its advancement in a systematic

fashion. Uniformity helps in sharing a common language and improves practices through sharing experiences. A national guideline and its adherence is one way to achieve this objective. An important first step toward this goal is to gain insights into practices across a wide spectrum of health care existing in a vast country like ours. An effective way of doing so is to invite and involve as many exponents by the way of methods that are uniform and less cumbersome. Questionnaire-based survey is a useful tool that allows assessment of a wide cross-section of population with relative ease. Using electronic platforms further economizes the time, response rate, data compilation, and cost and has become the method of choice for large medical surveys. In the just published issue of *Lung India*,<sup>[14]</sup> Dr. Madan *et al.* have done well in adopting this method, having previously used it for the Indian Bronchoscopy survey.<sup>[15]</sup> Using the database of national respiratory organizations and sending out a carefully constructed questionnaire encompassing the key points of MT, they have meaningfully interpreted the results while acknowledging the limitations entailed in such methods and responses.

It is reassuring to note that most respondents have adhered to the broad principles of the procedure albeit with varying degrees of benign transgressions. The increased need for incorporating a thoracoscopy program in our public health sector and encouraging participation of trainees should remain a prerogative. Although the concept of “see one, do one, teach one” is a time-tested traditional method of learning, only one-fifth of the respondents have undergone a formal training program, emphasizing the need for increased availability and participation in well-structured courses. Most of the exponents have addressed patient safety by ensuring the presence of adequate monitoring tools, resuscitative measures, and the availability of surgical backup. The necessity of documentation and accountability is well reflected in the findings that a substantial number (84%) have video-recording facilities. An interesting finding has been the use of rigid thoracoscope as the instrument of choice over the more popular flexi-rigid thoracoscope, which, by its similarity to the familiar flexible bronchoscope, would have been the more natural and preferable choice of most chest physicians.

Undiagnosed pleural effusion remains the major indication of the procedure and is in line with worldwide practice. Managing adhesions in pleural space infections constitutes another important indication in our part of the world due to the nonavailability of more effective human recombinant DNase in combination with t-PA<sup>[16,17]</sup> and the lack of

widespread availability of enthusiastic thoracic surgeons. Talc pleurodesis is a close third indication though the TAPPS trial may well change this practice.<sup>[18]</sup>

An important and concerning finding of the survey has been the complication rate reported by almost 70% of the respondents. The authors may have well analyzed this in their discussion, for it forms an important audit tool. With close to 30% of the respondents reporting postprocedural empyema and port-site infections, it leaves scope for more stringent infection control measures and to consider early strategies for trapped lung situation or referral to surgical colleagues. While the exact mortality figures are not available, almost 8% of the respondents have encountered this during the procedure, which is well beyond the accepted rate of 0.34%.<sup>[2]</sup> Thus, the complication rate needs serious self-introspection as to the cause and remedial measures that need to be taken. Formal training, careful patient selection, and a less cavalier approach may well be the first step in this direction. *Primum non nocere* must always remain the motto.

The authors have done well to acknowledge their limitation, especially the dismal percentage of respondents from a national pool of more than 5000 chest physicians. The interpretations of such surveys, therefore, demand caution, which readers will undoubtedly exercise. The intention is to provide a nationwide snapshot of the current practice which can then be amalgamated into national consensus statements and guidelines. It is also hoped that the survey will feed into further clinical and epidemiological research, which is the need of the hour for a country like India to ensure both quality assurance and improvement in the care of its patients with pleural diseases.

*Tell me and I forget, teach me and I may remember, involve me and I learn*

– Benjamin Franklin

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