Speaking for Myself

Why India needs video-assisted thoracic surgery (VATS)

SAI YENDAMURI

A couple of years ago, a patient who travelled 800 km came from a tier 2 city to consult me in Hyderabad. He came with a chest tube sticking from his right side. A foul odour was emanating from his chest tube site. On probing further, he described the nightmare his life had been over the past 6 months.

This 30-year-old man was seemingly fine carrying on with his work until a year ago, when he started having low-grade fever, predominantly in the evening. A chest X-ray showed a lesion in the lung and sputum analysis confirmed acid-fast bacilli. He was promptly started on antituberculous therapy. His fever disappeared, weight improved and his health seemed restored. However, 6 months ago, he had sudden onset dyspnoea and went to the emergency room. A chest tube was placed upon discovery of a pneumothorax leading to partial resolution of the dyspnoea, but the lung did not re-expand. He spent 2 weeks in the hospital and was discharged with the tube in place. The next 5 months were spent in repeated visits to the hospital and multiple episodes of fever treated with escalating antibiotics. The latest antibiogram showed pseudomonas resistant to all antibiotics except colistin. Over this 5-month period, he saw only one cardiothoracic surgeon who asked him to follow-up when 'he got better', enough to tolerate surgery. He also mentioned that he would have to perform a pneumonectomy and there was a high chance of dying on the operating table. This opinion was reinforced by his treating pulmonologists, who were several in number, over the 6-month period. On examination, it was clear that his chest tube dressing was not changed over several weeks and his nutritional status was diminished. Added to this, his financial reserves were depleted as well with the long illness. His social situation was tenuous as well as he was the sole breadwinner for his family, consisting of his wife and two young children.

In the two and a half years that I practised in India, I have seen similar patients with regular frequency. If this were a patient with coronary artery disease with bad aortic and mitral valves, he probably would have had a double valve replacement with coronary artery bypass within a month of its discovery. When there are surgeons in India who can perform complex cardiac surgery with resources bordering on bare essentials, why do patients with thoracic problems linger? Perhaps it is because the health system is not equipped to deal with the complexity of the postoperative care. However, this explanation does not ring true. The city that this patient hailed from has seen successful heart transplants, an endeavour that requires a higher degree of sophistication and multidisciplinary care.

So where does the problem lie? Why are there insufficient surgeons willing to tackle thoracic surgical problems? There are several seemingly obvious explanations to these problems. There is a perception among both trainees and practitioners that thoracic surgical problems occur mostly in poor patients that cannot afford to pay for medical services. Another common belief is that most patients with thoracic malignancies are late stage and not amenable to surgical resection. Yet another reality is that the postoperative course of thoracic surgical patients is extremely variable and cannot be accommodated in a surgical 'package', an increasing trend in surgical care delivery. Patients do not tolerate poor outcomes well and even a small number of failures can jeopardize one's practice. While there is an element of truth in all of these statements, do they sufficiently explain the lack of thoracic surgical practitioners in the country?

Let us examine a comparable field in the cardiothoracic arena—that of congenital heart surgery. This is one of the most complex surgical areas with complex postoperative issues. Postoperative course is variable in these children. Congenital heart surgery does not only happen in rich people, but afflicts all strata of society. Given that most patients are children, there are major emotional issues around poor outcomes. However, despite these problems, and the fact that the incidence of these defects is far less than those of thoracic surgical problems, I am willing to wager that in most metropolitan cities in India, more congenital heart surgeries than general thoracic surgeries are done. Similarly, the field of kidney and liver transplantation, with all its attendant preoperative and postoperative complexity has blossomed in India. In all these fields, surgeons have adapted to the socioeconomic realities and have modified techniques and protocols to achieve good success rates. I am sure that when these fields started in India, they had problems similar to what thoracic surgery faces right now.

While the problem is multifactorial, one of the major problems with thoracic surgery in India is the lack of a critical mass of surgeons dedicated to the field. Until two years ago, there was no dedicated thoracic track programme in India. Currently, there are only three thoracic surgery programmes—all three are DNB programmes. There is no MCh programme. Although cardiothoracic MCh programmes exist, it is widely accepted that these primarily teach cardiac surgery with thoracic surgery as an afterthought. Another problem is the lack of awareness and interest among potential candidates. Current DNB programmes have had a difficult time attracting quality applicants due to concern among applicants about the viability of a career in thoracic surgery. As it is a new field these candidates are understandably anxious, as the powers that be do not encourage students from changing their field by pursuing a second graduate education programme later on. While this was the same case with liver transplantation, the field was kick-started by several surgeons trained in the UK who relocated back to India. Unfortunately, the number of general thoracic surgeons of Indian origin in the UK

Department of Thoracic Surgery, Thoracic Surgery Research Laboratory, Roswell Park Cancer Institute, Elm and Carlton Streets, Buffalo, NY 14263, USA; *sai.yendamuri@roswellpark.org*

and USA is small and therefore the proportion willing to relocate back is smaller.

Given this situation, why is VATS important? From a technical sense, VATS is not the solution for most conditions in India. A large proportion of patients cannot afford VATS, hospitals are often unwilling to invest in the equipment necessary to run a good VATS programme and a major proportion of thoracic pathology is not amenable to a VATS approach, especially by the novice VATS surgeon. However, VATS (and I include all minimally invasive surgery here, including robot-assisted surgery) does have an element of novelty and a promise of new age medicine that captures the imagination of both patients and potential trainees. Most VATS practitioners, even if they do go open on a case, tend to pay attention to postoperative pain control and operative technique. From this sense, VATS has the potential to re-engage the surgeon in the discussion for treatment of patients with lung pathology. It also has the potential to re-energize interest of trainees in the field and lead to their reconsidering thoracic surgery as a potential career. With practice, more and more cases, traditionally not considered amenable to VATS, can be performed by the approach. I do not remember the last time I performed a decortication open, no matter what the duration of the disease was. Most lobectomies for bronchiectasis in my practice are performed minimally invasively, as long as the patient can afford it. Yes, it does take time to get comfortable with VATS to tackle these conditions, but if trainees see that this is possible, I am sure with traditional Indian perseverance and ingenuity, they will figure out a way to get there. Therefore, I think while VATS may not be the solution to all Indian thoracic surgical problems, it has the potential to re-energize the field of thoracic surgery and help build the critical mass of surgeons needed for the exponential growth it deserves.

By the way, the patient described above did get operated on. He had a destroyed right upper lobe with cavity that became a bronchopleural fistula. We performed a right upper lobectomy with a serratus anterior muscle flap, extensive decortication to recruit the lower and middle lobes. He recovered well and is now gainfully employed again. And, while the operation was performed by a surgeon known for expertise in VATS in Hyderabad, it could have been accomplished easily by a thoracotomy.

Obituaries

Many doctors in India practise medicine in difficult areas under trying circumstances and resist the attraction of better prospects in western countries and in the Middle East. They die without their contributions to our country being acknowledged.

The National Medical Journal of India wishes to recognize the efforts of these doctors. We invite short accounts of the life and work of a recently deceased colleague by a friend, student or relative. The account in about 500 to 1000 words should describe his or her education and training and highlight the achievements as well as disappointments. A photograph should accompany the obituary.

—Editor