Cardiothoracic & Vascular surgery in India-Achievements & future goals

Dear members of our prestigious association, invited guest faculty and friends,

I am grateful to all of you for electing me to this honoured post. I am obliged to my teachers especially Prof. Gopinath for shaping my career to be worthy of this position. I am also thankful to my family members, especially my wife, for their unconditional, everlasting support over all these years of my endeavor in this field.

What should be subject of my talk today? After deliberations with my colleagues in my department, I have entitled it “Cardiothoracic and Vascular Surgery in India – Achievements and Future Goals”.

What we have achieved today is because of the efforts of the founding fathers of this association over the last half century. They have worked hard to bring up this superspecialty from an unknown surgical discipline to its current status where we can be proud to be at par with other professional associations in our specialty. As surgeons of the current era, we are indebted to our predecessors for providing us the stepping-stones to success, and pay tribute to them. Although we have achieved technical competence, have we achieved everything we need to? It becomes important for all of us to take a break and have an insight into what is left to be achieved so that we may provide a better direction for generations to come. What I present today will be seen as a deviation from the routine but I want to initiate a process of rethinking amongst all of you.

The magnitude of the problem

First, we must know what is the magnitude of the problem of cardiovascular diseases in our country.

There appears to be an epidemic of cardiovascular diseases. Due to industrialization, urbanization and changing life style, cardiovascular and pulmonary diseases are becoming more common and the incidence is an all time high. Every year 50,000 new cases of lung carcinoma and 20,000 cases of esophageal carcinoma are diagnosed. Roughly more than six million people have coronary artery disease and about five million people have rheumatic heart disease. Concrete data is not available about the incidence of congenital heart diseases, but approximately 2,00,000 babies are born every year with some form of congenital cardiothoracic defect. With the aging population, degenerative diseases of the aorta are also increasing. It is likely that the burden of cardiovascular disability is going to increase in the future.

Our status

Presently more than 60,000 open-heart procedures are performed every year in our country and majority of these procedures are for coronary artery disease and valvular heart disease. About 5000 operations are performed every year for congenital heart disease in a few centres. These figures are inadequate to meet the national needs. Also, most of our cardiothoracic centres are located in the major cities and patients have to travel long distances for their treatment. Some states lack even a single active cardiothoracic centre. The techniques and practices vary from surgeon to surgeon depending upon their skills. These need to be streamlined and monitored by a regulatory body. For our own assessment, we need a national level registry and data bank. Without proper information, it becomes very difficult to justify, propagate and implement the good practice guidelines. Planning a national health policy will be impossible. Another important issue is the cost of cardiovascular procedures. At present, for an average Indian, all cardiovascular procedures can be considered expensive. The cost of procedures is high due to high infrastructure cost, as also the use of disposable goods.

Let us define our priorities

It is time for us to discuss these various issues and develop a long term plan. Let us first define our priorities, which can be grouped in the following broad categories. These are neither exclusive nor represent a specific order. They resemble the supporting pillars of a circular dome: all are equally important and may be counted as first.
1. Define and provide appropriate education and training.
2. Define minimum standards of care and develop regulatory mechanism.
3. Determine manpower needs and the steps for providing it.
4. Establish a registry of information.
5. Collaborate with cardiology colleagues and industry.
6. Develop leadership.
7. Provide holistic care.
8. Establish a code of ethics.

Postgraduate training

Resident training in our speciality is losing glamour, primarily, because of long incubation period and limited opportunities. Even after qualifying one struggles for 8 to 10 years before final settlement. This problem is further compounded by few job opportunities. Only a few public sector centers can provide a job and it requires large investment to start one’s own cardiothoracic center. For these reasons, a survey of the recent postgraduate admissions, found that this specialty was second choice for most of the residents.

The training programs are not uniform. There is no minimum prescribed standards for resident training. Though Medical Council of India (MCI) and National Board of Examination have prescribed minimum standards in terms of hospital beds and staff for resident training programs, these are not strictly followed. Many of the hospitals provide false information to the assigned inspectors only to get accredited for the purpose of M.Ch and DNB training. It is imperative to form a regulatory body consisting of the peers of our association to monitor the resident training programme.

An important problem is that of mixed training in Cardiac, Thoracic and Vascular Surgery. In most of the centers, it is either cardiac surgery or the thoracic surgery which takes the priority and the other is undeveloped. Vascular surgery is being ignored by almost all the programmes. In recent times cardiothoracic and vascular surgery has expanded enormously and virtually it is impossible to practice all three specialities simultaneously with reasonable perfection. With technical advancements in adult cardiac surgery, neonatal and fetal cardiac surgery, robotic and minimally invasive surgery, heart and lung transplantation, VATS, cancer surgery, esophageal interventions & surgery and tracheobronchial surgery, the current training programmes are clearly unsatisfactory. It is time to recognize this fact, and start separate training programmes in these specialities and restructure training programmes. After a brief general training in all three specialities, the resident should work extensively in the chosen speciality and be allowed to practice the same. Training in different specialities can be obtained at different centers in rotation. However, with the current trend, mixed training augurs for neglect of thoracic and vascular surgery, and I strongly feel the need for separate training programmes in these specialities.

The present system of thoracic surgery residency was conceived in year 1954 in India when it was felt that after being trained in general surgery, a surgeon required two additional years of training to become a thoracic surgeon. But since then, cardiothoracic surgery has expanded greatly and it is not possible to attain mastery in all areas over a short period of two or three years. Though training in general surgery offers fundamentals of surgical principles, I do not believe that a three year residency in general surgery is required before entering a cardiothoracic surgical training program. Much of the work performed during second and third year of residency in general surgery is rarely utilized in cardiothoracic practice. Thus, I feel we should work for a 1+5 years program for cardiothoracic residents: one year basic training in general surgery followed by rigorous five year training in cardiothoracic surgery. The residents should be allowed to write their examinations after four years of training, so that they can develop operating skills and independent decision-making in the last year without having to worry about examinations.

I also feel that there should be a separate board in our association for examination and certification. This would ensure uniformity of the examination while eliminating local factors. Certified surgeons should get preference over any M.Ch/DNB graduate.

Currently there is an explosion in information technology. It is becoming exceedingly difficult for postgraduates to absorb all the information. The problem is further compounded by long hours in operation theatre, ICUs and wards. Thus, I feel the need for a didactic and program based teaching. We should make efforts to develop the teaching material with contemporary content. This would improve the resident training. Introduction of animal laboratories for resident training will greatly enhance the operating skills of residents and would likely eliminate the learning curve.

Also, we need to introduce the subject in medical school curriculum at UG and PG levels. In order to create an interest in our speciality they need to learn what we do. Our active participation will generate interest among medical students and attract the best students.

Training of supportive staff

Supportive staff in our speciality include intensivists, physician assistants, technicians, nurses,
perfusionists and physiotherapists. As in any other surgical specialty, team spirit and a sound knowledge of the subject helps deliver quality care to patients without undue stress. Although the role of our anesthesia colleagues is well recognized and training programs are in place in some centers, the role of intensivists and physician assistants is often unrecognized and underestimated. Intensivists play a major role in ensuring smooth postoperative recovery of patients undergoing major surgical procedure and help in unloading the surgeons. Physician assistants are more than “assistants” to the operating surgeons. In our country where most cardiac centers are located in major cities and larger hospitals offer lucrative assignments to fresh postgraduates, the smaller centers in “not so big cities” have to contend with a scarcity of manpower. As a result, the operating surgeon often has little or no help and has to manage often with the assistance of nursing staff. It is here that the physician assistant steps in. In large centers in developed countries, a large number of staff have been trained to assist during surgical procedures and they take care of most of the patient preparation and assistance during operations. Training of physician assistants ensures a trained person for a procedure and maintains stability in a surgical team as they are more likely to remain at a particular centre. With the current exodus of trained nursing staff to the middle east and western countries, the perioperative care is becoming increasingly difficult. They join intensive care units to acquire the required experience in one to two years and then leave. I am not averse to career development, however we must find a solution to this exodus by awarding them special status and perhaps better remuneration, while introducing a prohibitory clause. The role of other team members like technicians, perfusionists, physiotherapists and medical social workers cannot be over emphasized. They are an integral part of every surgical team. Training them according to uniform and well-established protocols ensures quality care with uniformly good results.

**Improvement & maintenance of standards in quality of care**

Discussion on this aspect would not arise if an effective system existed which could take care of quality assurance with uniform results irrespective of the center at which the patients underwent treatment. It is of paramount importance and probably mandatory to develop protocols and lay down guidelines for patient management in specific clinical situations. This will ensure delivery of the best possible care to patients. In addition it would also avoid unnecessary litigation with its attendant cost. Soon, we will be spending a large amount on insurance to avoid litigation under the consumer protection act. If the guidelines and protocols are clear and everyone follows them, litigious situations would not arise.

Paramount to these considerations is a need to develop a system of licensing. All members of the fraternity should be permitted to practice only after having been found fit to do so. I am aware that this will open up the “Pandora box” but we can learn from countries which have shown the way in this field. The need to establish a board for cardiothoracic surgery with everyone having to obtain certification from it prior to treating patients is now being increasingly felt in our country. This should not be a one-time affair and periodic assessment of a person’s knowledge and competence will go a long way in improving the quality of care we deliver to our patients. Leading experts in various sub specialties have an obligation to train those who are new and are learning the art. Continuing medical education programmes and workshops are now being organized with increasing frequency. I advocate that frequency should be increased further so that the members of the association gain from expertise to improve their own surgical skills. Besides, this will also help them to be in regular touch with the speciality and could be a benchmark for renewal of licence to practice.

In addition to this we should develop a system of internal adult. Reporting wrong judgement, adverse events, and errors of both commission and omission should be mandatory. Performance reports, for internal quality improvement and accountability should be generated. An advisory and regulatory body can help a centre with poor performance and may be vested with powers to ban practice in case of non-compliance.

**Establish the power of information**

Alwin Toffler said, “Knowledge is power”. This is even more relevant in this ‘information age’. The correct, relevant, truthful information provides exact state of the present and shows the path for the future. Proper information is essential for planning future strategies, shaping government policies, prediction of market, quality care evaluation, and also to solve the issues related to insurance and malpractice. Correct and effective information will also help to solve various clinical disputes in the event of litigation. Our database is non existent. We should make participation in it mandatory. The association should be the “watch dog” of our specialty and no member should be allowed to practice without honest participation in the database programme. As has happened elsewhere we should find...
a way for ourselves, rather than being forced to participate by a legal order. The development of various registries, local and national data bases, along with internal and external audit should be our top priority. We should develop the national data base with funds from practitioners, hospitals and even by the industry, as the information is to be shared by all.

Collaboration with cardiology colleagues

A continuous battle is being fought between cardiac surgeons and interventional cardiologists with their angioplasty catheters, lasers, atherectomy instruments, and stents. The cardiological or surgical procedure performed is often not determined by clear indications or data, but by the aggressiveness of the cardiologist. We must develop new relationship with our medical colleagues. Confrontation and criticizing each other is not the solution. Patients, whose welfare is the primary purpose, will lose faith in both the specialists. I have few observations to make;

Cardiologists are not our competitors we must complement each other. Wherever a cardiology centre is opened, it will generate patients for surgeons too.

Cardiac surgery is not just treating CAD, Valvular heart diseases, congenital heart diseases, degenerative heart diseases, cardiomyopathy, etc. but also of developing many other fields which are complementary.

We should develop a database and should also encourage our cardiology colleagues to do the same. Honest data, after a period of time, will speak for itself about the best form of treatment.

The concept of “in – line” services, where both the surgeon and cardiologist are jointly responsible for continuity of care, would deliver the best quality to the patients.

Besides, we should try to improve ourselves by enlarging the scope of minimally invasive or endoscopic surgery, bettering our own results in terms of morbidity and mortality and thereby providing a healthy competition to our cardiology colleagues. Also, We should train our students to become efficient cardiologists too. They should be trained in clinical assessments, interpretation of ECG, Echo cardiography, catheterization and other interventional procedures along with endoscopy. They should be trained to take care of emergencies and should be certified in all these areas.

Collaboration with industry

In the present scenario, most business houses in our speciality work as marketing agencies alone. Limited efforts have been made to develop and manufacture various equipments and consumable items. Presently about 90% of required items are imported. This results in higher cost of surgery. We need to develop indigenous, low cost products and encourage the industry for research in the related problems. Besides the development of equipments and consumable products, speciality care services should be recognized as an industry with tremendous potential. Efforts should be made to develop necessary infrastructure, especially in remote areas.

Another important issue is that of ‘health tourism’. A recent CII-marketing study in health care states that medical tourism alone can contribute Rs. 5,000/- to 10,000/- crores additional revenue for up market territory hospitals by 2012. A CABG operation in India costs US$ 1000-4000 while in USA it costs between US$ 20,000 to 50,000. Business houses should recognize this and every effort should be made to develop medical tourism.

There are certain positive aspects of our surgical experience which can be of great benefit.

1. Results of surgery are at par with that from any developed country
2. We have internationally qualified and experienced surgeons

Any patient from a developed country can get his treatment here including cost of his stay with family members and local sight seeing at one tenth of the cost in his own country. With health tourism, we can be self-sufficient financially without depending upon the government for funds. It will also help us to retain skilled personnel in the public sector institutions.

Leadership

Leadership implies guiding by example and creating an environment for growth and development. The ends do not always justify the means. It is time that cardiac surgeons came out of their cocoons and lead the society in medical education, health care provision and policies. Besides this, it is very essential for cardiothoracic surgeons to develop a political voice. I would add that the concept of monolithic leadership is flawed and it leads to glorification of a personality with suppression of other streams of thoughts. We should develop the concept of collective leadership and influence the community to face its problems.

Holistic care and ethics

I have no doubt that we are well trained in clinical and technical skills. I am less certain that we are educated well enough to fulfill the humane demands
of our profession. Our speciality is not merely an applied science or a technical discipline. It includes an important aesthetic component, juxtaposing art and science, and demanding in addition, honesty, courage, judgment, vision, erudition, compassion, and a consuming commitment to the pursuit of excellence and of high technical standards. we should create an environment conducive to the development of artful physicians and true healers of mankind, rather than glorified technicians. It is essential for us to develop a system to address the social, physical and spiritual needs of our patients and the society at large. It should be conducive to development of respect for the dignity of human life, humility and interpersonal skills. Financial assistance, risk factor modification, patient education and rehabilitation are some important facets, which need our attention.

No matter how sophisticated the attempts to prevent abuse or illegal acts, no amount of institutional check and balance is capable of effectively preventing professional misconduct. Personal and institutional integrity can be maintained only by establishing a spirit in which individual and institutional ethics override the lure of personal gain. This spirit can only be maintained by examples of honesty, courage, truthfulness and compassion of senior members. It is paramount for all of us, especially the senior members, to develop a self disciplined model code of conduct. Besides patient care, certain fields where strengthening of ethical values require urgent attention include interaction with referring physicians, training of junior members and dealing with the media.

Why we?

One may ask, why should we initiate the change? The government, and other agencies are there to work for it. Many of us believe that our problems will be solved by government rather than by individual inputs and efforts. Experience worldwide has shown that government funded and centrally managed healthcare policies tend to be inefficient and create colossal and economically bottomless bureaucracies. I would reemphasize the fact that “Health care is too important and complicated issue to be left to the politicians”. Our politicians and bureaucrats affect legislative and regulatory requisites often unwittingly, because they are uninformed. Very few of our policy makers have enough background in technology, medicine and science to legislate in this area, nor are they interested in acquiring such knowledge. Cardiothoracic surgeons have classical vision, charisma, tenacity, perseverance, a focused work ethics, and certainly, the courage to move ahead when the future is not visibly clear. There is no technical field today ahead of thoracic and cardiovascular surgery in which science is moving so fast. This marvelous surgical speciality provides a vantage point from which we can see and even participate in change, participate in new discovery and in accelerating progress. It would be most appropriate for us to be the ‘instrument of change’. The attitude ‘I am too busy to get involved’, or ‘let me operate, there are people to take care of other things’ would not lead us anywhere.

Conclusion

I am confident that cardiothoracic surgery will continue to flourish. To participate effectively and to lead rather than react to the upcoming developments and challenges in the science and society, we must maintain our professional integrity; prove that we can aim beyond narrow view of the cavalier, socially unconcerned and economically motivated technicians.

Nothing is impossible in this world and as Benjamin Franklin said ‘If you would not be forgotten as soon as you are dead, either write things worth reading or do things worth writing’.

Let us rise to the occasion and prove that we can achieve what could not be achieved anywhere else in the world. We should be the best as individuals, as an association and as a country so that we can appropriately say East or West, ‘India is the Best’ and from the core of our hearts comes the voice “SARE JEHAN SE ACHCHHA, HINDUSTAN HAMARA”.

Finally, for the privilege of being your president, I am honored and thank you all once again. God bless you all, Namaskar.

Balram Airan