



Newsletter

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EDITORIAL

TRIBUTE TO SHRI K. K. MEHTA



“Everything starts with an idea, a concept in the mind. A dream is shaped by action. Actions become reality by sincerity and hard work.... People say miracles happen to those who believe in them. To me, every hour of the day and night is an unspeakable, perfect miracle. The power of faith and the strength of hope are always there to light our way. Today, and in the days to come, let us believe in our hearts that miracles do happen. One example of such a miracle is the Rajiv Gandhi Cancer Institute and Research Centre which was conceptualized by me in 1990”. **Mr. K. K. Mehta – Principal Founder & Principal Advisor, RGCIRC.**

Mr. Kanwal Krishan Mehta was born on 1st January 1925 in an average business family where education had little value. But he recognized that doors to a bright future could only open with education. He completed his Graduation in Commerce from Government College, Lahore. He got married 3 months before Independence and subsequent partition in May 1947. He went to Mumbai, where he first worked as an accountant with a businessman before joining Dock Labor Board as the Secretary of Bombay Stevedores Association. To observe Dockyards through the world he was part of a team that went on a multi-nation tour in 1959, all of which probably added to his unique Management style and vision. His next step was Siemens India, first as a personnel Manager in Mumbai, and then in 1968 he shifted to Delhi as Regional Manager Finance, Siemens North India. Wherever he worked, he made a distinguished mark as a strict disciplinarian, who set high standards of hard work, discipline, efficiency and complete integrity. There are incidents galore of his Humanitarian approach.

Mehtaji as he was known in the corridors of RGCIRC is no more. He passed away on 27th March 2018. Mehtaji touched the lives of thousands and touched all benchmarks of success with excellent work in Healthcare. Rare breed of Philanthropists who after retirement, took up one idea, made that one idea his life. Only thought of it, dreamt of it and lived on that idea. His head, heart and soul were full of that idea. That was the road to success in the form of RGCIRC. He faced many problems. He always said problems are not stop signs, they are guidelines.

He used to say “Our people – patients and others we work with – are not merely numbers or contacts. We have built relationships with them. For many of our doctors, nurses and staff, the institute is not just a place of work. It is their identity, their second home”. Care with empathy has been the USP of those who founded the Rajiv Gandhi Cancer Institute and Research Centre.

Before the construction of new wing began, he had commented “We try and live up to the founding principles of ethics and empathy. This institute is not just a building with splendid machines. It is a hospital with a sound heart. Mine is only a small contribution to this project. But I pray the Rajiv Gandhi Cancer Institute and Research Centre will continue its journey towards excellence in cancer care... and that will be in our dreams, awake. “Looking back, I thank God for a good life. I believe He is ever close to those who quietly, day upon day, make an important contribution”.

Mehtaji donated his body to Dadhichi Dehdan Samiti. He told his daughter “look here! What good is this body! Let it go in helping others. I don't care a straw if the body goes! You cannot imagine how happy I am to give it to the earnest seekers”.

Mehtaji, an excellent decision maker, disciplined with analytical mind is not amongst us. A real karmayogi who knew the way; he went the way and has shown the way.



Dr. A. K. Dewan
Director - Surgical Oncology

CARCINOMA ESOPHAGUS: STATUS OF ROBOTIC ESOPHAGECTOMY

Esophageal cancer is the eighth most common cancer worldwide, with an estimated 456,000 new cases in 2012 (3.2% of the total), and the sixth most common cause of death from cancer with an estimated 400,000 deaths (4.9% of the total). These figures include both adenocarcinoma and squamous cell carcinoma sub-types. Around 80% of the cases worldwide occur in less developed regions. Carcinoma of esophagus is an aggressive disease with poor outcomes if not adequately treated (overall ratio of mortality to incidence of 0.88). The overall 5-year survival rate for esophageal cancer remains poor, despite the modest improvement from 5% between 1975 and 1977 to 19% between 2002 and 2008. In disease there is survival advantage of transthoracic approach.

Multimodality Approach for Carcinoma Esophagus

Radical esophagectomy with adequate lymphadenectomy remains the cornerstone treatment for early stage esophageal carcinoma. However, surgery alone is rarely curative for tumors invading beyond the muscularis propria or involving oco regional lymph nodes. As a result, many trials have addressed the role of chemotherapy and radiation in the neoadjuvant or adjuvant setting. Accumulating evidence suggests that patients whose tumors have invaded beyond the submucosa (T2 or above) and who are surgical candidates should undergo some form of neoadjuvant therapy including chemotherapy, radiation or both prior to surgical resection. The recent meta-analysis by Sjoquist et al included 12 RTCs of neoadjuvant chemoradiotherapy vs surgery alone. The HR for all-cause mortality with neoadjuvant chemoradiotherapy was 0.78 (95% CI: 0.70-0.88; $P < 0.0001$); the HR for SCC was 0.80 (95% CI: 0.68-0.93; $P = 0.004$) and for adenocarcinoma was 0.75 (95% CI: 0.59-0.95; $P = 0.02$).

Multiple surgical approaches have been described for esophagectomy which are broadly grouped under two categories i.e. transthoracic or transhiatal approach. Transthoracic esophagectomy is performed more commonly by means of combined laparotomy and right thoracotomy (Ivor Lewis procedure) or a three-incision resection with a cervical anastomosis (McKeown procedure). It is the preferred surgical approach at many centers allowing for en-bloc resection of the tumor with the surrounding para-tracheal, subcarinal and para-esophageal lymph nodes. The studies which have compared transhiatal and transthoracic approaches had mixed results. The randomized trial, published in 2002 by Hulscher et al, has provided level I evidence regarding this controversial issue. Two hundred and twenty patients were assigned to either transhiatal or transthoracic esophagectomy. Transhiatal esophagectomy had a shorter operative duration than transthoracic esophagectomy (3.5 h vs 6 h), with lower blood loss (1 L vs 1.9 L). Perioperative morbidity rate was also lower in the transhiatal group (pulmonary complications, 57% vs 27%; chylous leakage, 10% vs 2%). Duration of mechanical ventilation, ICU stay and hospital stay were all shorter in the transhiatal group. However, there was no significant difference in hospital mortality (transthoracic: 4%; transhiatal: 2%). Although initially a trend toward a survival benefit with transthoracic approach was seen, after longer follow-up, no difference in 5-year overall survival was found (transthoracic: 36%; transhiatal 34%). Notably, the transthoracic approach was of benefit in some subgroups; patients with 1-8 positive lymph nodes had better disease-free survival rate (64% vs 23%), and patients with tumors arising from the distal esophagus (rather than gastric cardia) tended towards a survival benefit (51% vs 37%, not statistically significant).

At present, there is some evidence which suggest that, in a fit patient with lymph nodal disease there is survival advantage of transthoracic approach.

Minimal Invasive Approach

Minimally invasive esophagectomy (MIE) was designed to reduce surgical trauma, resulting in lower morbidity and mortality rates without compromising the oncological outcomes. The initial publications involving minimally invasive esophagectomy were mostly institutional series. Outcomes from these institutional series included anastomotic leak rates of 4% to 11.7%, pneumonia rates of 7.7% to 16.7%, major morbidity rates of 12.5% to 23%, and operative mortality rates of 0.9% to 6%. Luketich, one of the earlier pioneers of MIE, reported his extensive experience from 1996 to 2002 on 222 patients who underwent MIE for either high-grade dysplasia ($n = 47$) or invasive cancer ($n = 175$). MIE was successfully completed in 206 (92.8%) patients with operative mortality of 1.4%. The median length of ICU and hospital stay, intraoperative blood loss and amount of intravenous fluids infused intraoperatively were significantly decreased with MIE. With enough evidence to support the fact that MIE is associated with significantly lower blood loss, less postoperative cardio-pulmonary complications, and with comparable oncological outcomes, it seemed to be a better alternative to traditional TTE.

The steep learning curve associated with MIE has always been a challenge. The conventional MIE methods are limited by the technical difficulties. Mainly, the use of long instruments with limited degree of freedom and two-dimensional view can become hindrance for optimal dissection. These issues are well taken care in robotic esophagectomy .

Robotic Esophagectomy

The first robotic system became available in 1998, and the da Vinci Surgical System (Intuitive Surgical, Inc., Sunnyvale, CA, USA) was approved by the United States Food and Drug Administration in 2000. The first case of robot-assisted esophagectomy for esophageal carcinoma reported in the literature was carried out by Horgan et al .in September 2001 at the University of Illinois, Chicago. Horgan's procedure was a transhiatal esophagectomy (THE). Robotic transthoracic radical esophagolymphadenectomy (a type of TTE) was first done in November 2002 at the University of Iowa Hospital, Iowa City, and reported by Kernstine et al.



Fig 1: Docking of Robotic Arms

Since its introduction, Robotic surgery has generated considerable excitement and interest in various oncological surgeries including esophageal surgery. Robot-assisted surgery can accelerate the learning curve of MIE with the help of magnified three-dimensional view, improved articulation of instruments with seven degree of freedom, improved dexterity and enhanced ergonomics. The dexterity and articulated instruments permit seven degrees of motion including in/out; rotation; pitch at wrist; yaw at wrist; pitch at fulcrum; yaw at fulcrum and grip strength. The improved tremor free motion stability can add to fine movements and facilitate a precise dissection and suturing in a confined operating space. Robot assisted surgery can help the surgeon in precise dissection of the structures in the mediastinum which otherwise would have been challenging via conventional MIE. Magnified view helps in better clearance of lymphnodes especially in subcarinal and para tracheal region. The steady ten times magnified field of view is especially helpful when operating on moving structures in the mediastinum, caused by breathing, and pulsatile movements of the heart and aorta.

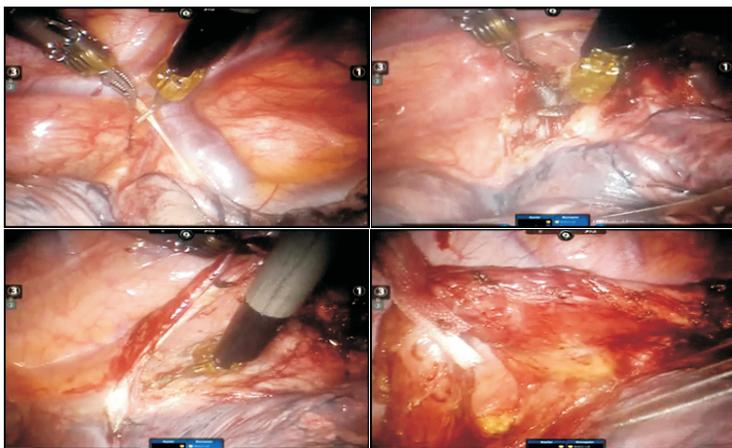


Fig 2: Various Stages of Robotic Thoracic Esophageal Mobilization

In open surgery, the ribcage hampers a direct look at the operative field in the upper mediastinum. Obtaining good exposure, with a clear illumination of the operative field is often difficult. A thoracoscopic approach might overcome this disadvantage, but by working in the upper thoracic aperture, the instruments have to reach deep into the thorax, imposing problems in manipulation, through the fulcrum effect at the ribs. Also, in the thoracic inlet, instruments tend to approach the operative field in a parallel way, therefore compromising maneuverability. Robotic system eliminate these problems in manipulation, visualization and ergonomics and enable surgeons to do

a dissection along the border of the superior vena cava and along the recurrent laryngeal nerves, up to the level of the clavicle, and down to the aortic arch. Improved dexterity and control over tremors helps in performing Ivor Lewis esophagectomy with hand sewn anastomosis.

Another modification being used by surgeons is that they have started performing thoracic part by robotic approach and abdominal part by laparoscopic approach (robot assisted minimally invasive esophagectomy – RAMIE). Benefits of RAMIE are there especially for upper thoracic tumors or where para tracheal lymphnode dissection is to be done. Contraindications to RAMIE are similar to MIE that is previous right side thoracic surgery.

Another modification is robot assisted transhiatal esophagectomy (RATE). In this robot is placed in the abdomen only and complete mobilization is done via transhiatal approach. There is limited data to this but the post operative outcomes have been impressive.,

Oncological Results

After more than 15 years of robotic esophageal surgeries, several groups have published their long term oncological outcomes. The Utrecht group, reported their radical resection (R0) rate of 95%, 5-year overall survival (OS) of 42%, and locoregional recurrence of 6% in case series of 108 patients. The Yonsei group, another pioneer, also reported R0 and 3-year OS rates of 95.7% and 85%, respectively. Both groups concluded that robotic TTE is oncologically effective and acceptable with a high R0 rate and adequate lymphadenectomy.

Our Experience

We at Rajiv Gandhi Cancer Institute and Research Centre have been doing MIE for esophageal cancers in selected patients. Till date, we have performed 27 robot assisted esophagectomy without any mortality and minimal morbidity.

Dr. Manish Jain (DNB – GI Surgery)
Attending Consultant

Dr. Shivendra Singh (M. Ch. – GI Surgery)
Sr. Consultant & Chief

Department of GI Oncosurgery & Liver Transplantation

CME – IMA LUDHIANA



RGCIRC organized a CME in association with IMA Ludhiana on Friday, 30th March 2018 at IMA Bhawan, Ludhiana, Punjab. Dr. Rupinder Sekhon, Sr. Consultant & Chief of Gynae Surgical Oncology delivered a lecture on “Strategy for Management of Ovarian Cancer and Cervical Cancer Vaccines in Indian Scenario” and Dr. Vineet Talwar, Co – Director - Medical Oncology spoke on “Immunotherapy in Cancer” in the said CME.

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CME – IMA JAUNPUR



RGCIRC organized a CME in association with IMA Jaunpur on Saturday, 14th April 2018 at IMA Bhawan, Jaunpur, UP. Dr. Rajeev Kumar, Sr. Consultant - Surgical Oncology delivered a lecture on "Intricacies in Cancer Surgery", Dr. Kundan Singh Chufal, Sr. Consultant and Chief of Breast and Thoracic Radiation Oncology delivered a lecture on "Advances in Radiation Oncology: from Cure to Quality Life" and Dr. Ajai Dubey from Surgical Oncology spoke on "Surgical Oncology at RGCIRC" in the said CME.

RGCIRC CATH LAB INAUGURATION

Cath lab in the Department of Radiology was inaugurated on Monday, 16th April 2018 in the presence of Mr. D. S. Negi, CEO, Dr. Sudhir K. Rawal, Medical Director, RGCIRC, Rohini, Dr. A. K. Chaturvedi, Chair – Radiology, Dr. S. Avinash Rao, Director – Radiology, Dr. Gauri Kapoor, Medical Director, RGCIRC, Niti Bagh, Dr. Sunil K. Khetarpal, other HODs, Sr. Consultants and administrative staff. This is a state of art ceiling mounted cath lab with Dyna CT, 3D, 4D procedures and Emboguide. This is the first cath lab installation exclusively optimized for oncology interventions in North India.



The cath lab is fully functional now and will be used for various interventional radiological procedures like diagnostic angiographies, bland angioembolizations, chemoembolization (TACE), Partial Splenic Embolization, Y90 Radioembolizations (TARE), hepatobiliary procedures (PTBD, internalization, stenting, TIPS, Transjugular liver biopsy), percutaneous gastrostomy, PICC line placement, chemo port placement, vertebroplasty and other interventions.

- Mr. D. S. Negi (C.E.O)
- Dr. S. K. Rawal (Medical Director)
- Dr. A. K. Chaturvedi
- Dr. D. C. Doval
- Dr. Gauri Kapoor
- Dr. Anurag Mehta
- Dr. (Col) A. K. Bhargava
- Dr. Rajiv Chawla
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- Dr. Mudit Agarwal
- Dr. Lalit Sehgal
- Dr. Manish Pruthi
- Dr. Sunil Kr. Khetarpal



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