



Rajiv Gandhi Cancer Institute and Research Centre

A Unit of Indraprastha Cancer Society
Registered under "Societies Registration Act 1860"

RAJIV GANDHI CANCER INSTITUTE & RESEARCH CENTRE

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News Letter

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EDITORIAL

WORK, WORK AND WORK – NEW YEAR RESOLUTION!

A young man earned a degree in Engineering. He started searching for a job and applied at few places. When he appeared for the interview he said he has no experience but wanted to learn new things. The company representative told him that a post of typist was vacant there. He needed the job and accepted it readily hoping to get better opportunities in future. He was asked to join the company immediately but he requested for 7 days extension and promised to join thereafter. When the young man returned after 7 days, then HR Manager asked him "you were eager to start work immediately, then why did you delay your joining by 7 days". The young man replied, "I didn't know typing well. I, therefore, did practice of typing and now I am confident that I am quite capable of undertaking this job". This man had the habit of doing his job with complete devotion and utmost ability. He reached the pinnacle of success and became the President of USA, Herbert Clark Hoover. He used to say 'Better results can be obtained by accomplishing the entrusted responsibility with complete devotion'. It is thus necessary to complete the job in hand with full ability. The moral of the story is "work, work & work with full devotion".

There is no choice whether we be on the lowest rung of the social ladder or on the top most, be we the governors or the governed, be in the higher or the lowest class – everyone of us must work. Never avoid work. Because nature will assert and make you work. Action is the insignia of life in any organism. So long as we live and breathe, we have to act and work which is the final expression of life in its grossest form. So we must try to understand how best

we can work. Live life, so long as you are alive. Grow through work – evolve in work and make your own life rich and sweet.

Lord Krishna portrays the picture of the intelligent hardworking man who lives the ideal life of higher values; but who controls the senses by the mind, unattached, employs his organs of action in Karma Yoga "Service of all", he, O! Arjuna, indeed excels (from Bhagvad Geeta).

Even maintenance of your body in healthy state is not possible if you live a life of inactivity. Whatever be the field in which we are working today, it becomes the work for us to polish our inner equipment. All work is noble, when we undertake it in the right spirit of selflessness and detachment. Work by itself is either good or bad but motive of the doer determines the quality of the work. "Action is nobler than a life of inaction". Remember, the result of your work depends upon the very intent and quality of your work.

Dr. Dewan A K

Wish you a very happy,
healthy & prosperous
Happy New Year 2013



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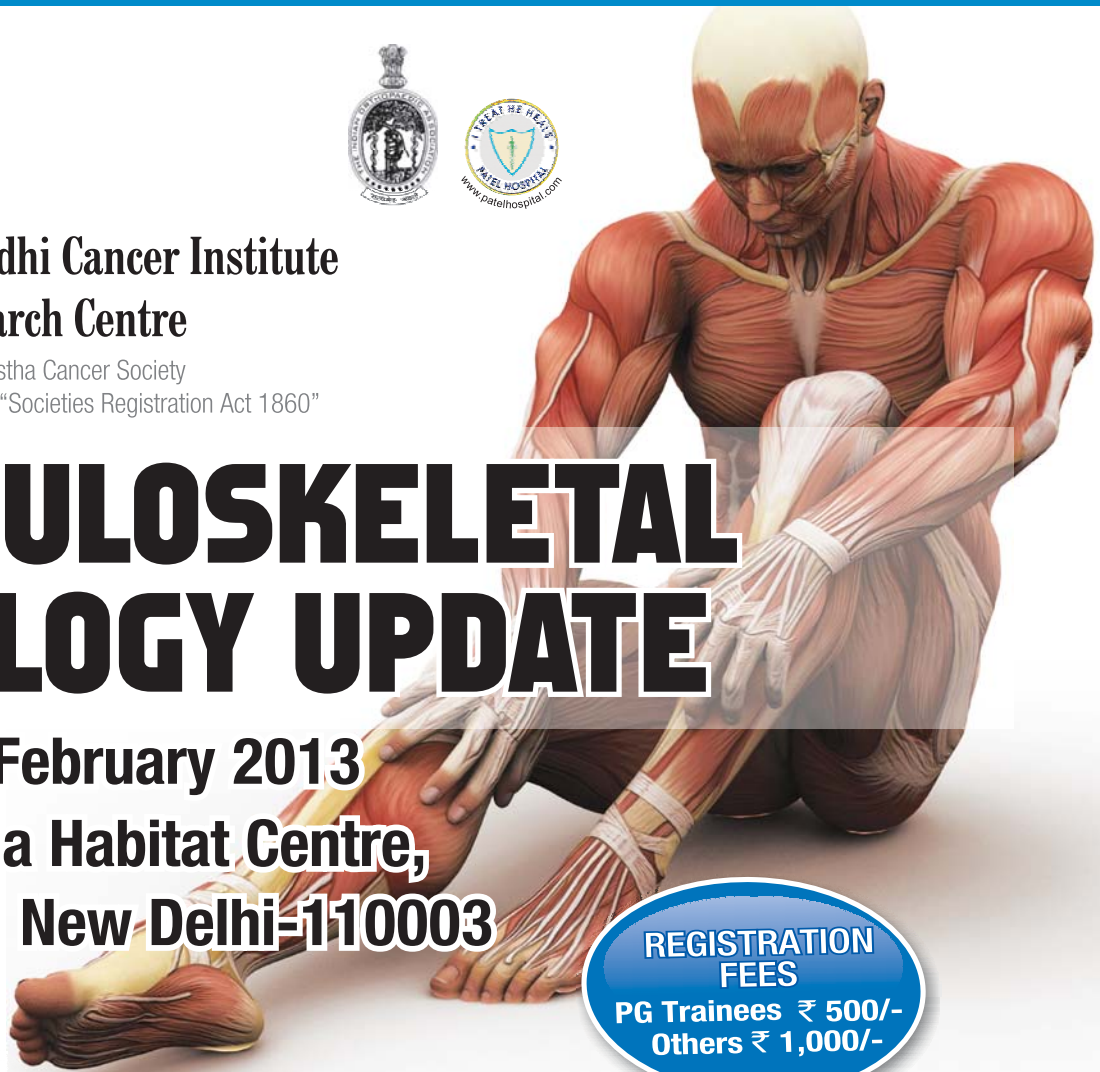
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MUSCULOSKELETAL ONCOLOGY UPDATE

Sunday, 3rd February 2013

Venue : India Habitat Centre,
Lodhi Road, New Delhi-110003



**REGISTRATION
FEES**
PG Trainees ₹ 500/-
Others ₹ 1,000/-

OUTLINE OF PROGRAM

- Introduction to normal musculoskeletal radiology & pathology
- How, when and when not to biopsy?
- Benign bone tumors - Tips & tricks
- Soft tissue sarcomas - The controversies
- Diagnosis and work up of bone tumors - The Radiologist's perspective
- Histopathological diagnosis of bone and soft tissue tumors - Beyond the microscope

WHO SHOULD ATTEND ?

- Practicing Orthopedic Surgeons with occasional / frequent chance to manage benign / malignant bone tumors
- Radiologists and Pathologists interested in bone tumors
- Residents / Post-graduate trainee / DNB in Orthopedics / Radiology / Pathology
- Medical / Surgical Oncologists and Trainee Oncologists

Course Co-ordinators

Dr. Akshay Tiwari

Consultant Orthopaedic Oncology
Rajiv Gandhi Cancer Institute & Research Centre, Delhi
Mobile : 098180 02611
E-mail : akshay_t_2000@yahoo.com

Dr. R. R. Saggar

Consultant Orthopaedic Oncology
Patel Cancer & Super Speciality Hospital, Jalandhar
Mobile : 098140 22540
E-mail : rrsaggar12@rediffmail.com

● Conference Co-ordinator ●

Ms. Mamta Arora (Marketing Dept.)

Ph.: +91-11-4702 2478 / Mobile : +91 9953962526, E-mail : conference@rgcirc.org

DD/Cheque to be made in favour of **Rajiv Gandhi Cancer Institute, Conference Account** payable at Delhi.

ANAESTHESIA FOR ROBOTIC SURGERY

Today technological advances have changed the practice of medicine. Recent in surgical practice is the adoption of computer assisted robots. The word robot is derived from the Czech word robota, meaning "forced labor". Robotic devices are Computer Enhanced Telemanipulator. The surgical robots perform tasks under control of the surgeon. The Surgeon is teleported to the operative site and able to manipulate surgical instruments as if he were in surgical field. In 1990, NASA & Stanford Research Institute, by Convergence of the Concept of Laparoscopy and Telemanipulation developed FDA approved Da Vinci Surgical Robots. In 1997, first robotic assisted surgery was performed by Jacques Hemipens & Guy Cardiere. The Da Vinci Robotic System has 3 components.



Figure 1 -- A Console where surgeon sits to view surgical field & control the robotic arms, there is place for surgeon to attach his hands & hand motions are translated to surgical instruments, it has 3DViewer.



Figure 2 -- An Optical 2D vision tower for record and display of surgical site for rest of the OT Team.



Figure 3 -- The Robot. The surgical cart has 4 arms that can be manipulated by the surgeon through real-time computer-assisted control. The central arm holds the videtelescope, right & left arms perform manipulations. Fourth arm acts as stationary retractor



Figure 4 -- shows robotic arms positioned in abdominal cavity of a patient for lower abdominal surgery.

Some of the advantages of Robotic Surgery are reduced Postoperative pain, Shorter hospital stay, Rapid postoperative recovery, Improved cosmesis, Short learning curve, Ease in morbidly obese patients and high patient satisfaction etc.

Limitations of Robotic System :

- Due to the proximity of the robotic side cart, the patient must be guarded against inadvertent contact from the motions of the robotic arms.
- Docking Robotic Arms --The instruments are engaged to the arms of the robot and placed inside the body cavities, the patient's body position cannot be modified unless the instruments are disengaged entirely and removed from the body cavity. Any patient movement from lack of muscle relaxant may be disastrous .For Urgent Dedocking Staff should be trained to quickly remove the robot from the patient in view of any airway or anaesthetic emergency.
- Bulky robotic instruments require large amount of OT Space. Invasion of anaesthetic work place, affecting quick accessibility to the patient.
- Current Robotic systems lack tactile feedback from the instruments, hence the surgeon must rely on visual cues to modulate the amount of tension applied to the tissues to avoid organ damage.
- Cost factor -- the large initial & annual service contract.

Anaesthetic Concerns -- Patient positioning requires steep Trendelenburg, Prolonged duration of the procedure, One Lung Ventilation for Thoracic surgery. Haemodynamic and Respiratory Concerns of Pneumoperitoneum / Pneumothorax, Hypothermia, Occult blood loss.

Surgical procedures performed with Robotics -- Cardiothoracic (CABG), Mitral Valve Surgery, Lobectomy, Gynaurology like Hysterectomy, Cystectomy with urinary diversion, Prostatectomy, Nephrectomy, Cholecystectomy, Total hip and Knee arthroplasties, Neuro & Spine surgeries.

Positioning -- Lithotomy and Trendelenburg for procedure in pelvis, Supine and Reverse Trendelenburg procedure in upper abdomen surgery, lateral for chest & Nephrectomy. Extreme positioning increases the risk of patients sliding off the OR table, Strapping should be done. If padded shoulder blocks are used, checks for excessive pressure over the AC joint are mandated to prevent brachial plexus injury. The size and bulk of the robot over the patient and the significant draping on both the robot and patient, makes it difficult to access the patient airway intraoperatively. Robotically assisted surgeries are often lengthy procedures, Ensure proper positioning, padding pressure points to avoid tissue and nerve impingement. Vigilance is required to prevent robotic arms from contacting the patient leading to crush injuries. The ulnar nerve is the most prone for injury. In Supine position both the arms should be kept adducted by the side of the patient. The peroneal nerve runs lateral to the knee and the saphenous nerve runs medial to the knee are prone to injury with lithotomy position. It is recommended that flexion at hip should not exceed 100 degrees.

PHYSIOLOGICAL PERTURBATION

The Respiratory System -- CO₂ insufflation & Pneumoperitoneum decrease pulmonary compliance by 30-50% in both healthy and obese. FRC is reduced due to diaphragmatic elevation. Paw, plateau pressure, and intrathoracic pressure are increased. Cardiovascular System There is increase SVR, MAP, CVP, PCWP and decrease in CI upto 50%. Haemodynamic changes correlate with increase in IAP & its effect on the diaphragm, Trendelenburg position decreases COP 10-30% Neurological -- Pneumoperitoneum causes increase in CBF & ICP. Hepatic--There is decrease in Portal and Hepatic vein flow. GI There is decreased mesenteric blood flow and GI microcirculation. Renal blood flow is decreased.

For pelvic surgeries with patient in Steep Trendelenburg position, due to gravitational effect, edema can develop around the face, eyes and upper airway. Post extubation respiratory distress has been described, requiring emergent reintubation. Recommendations are to restrict fluid replacement to 1-2 liters over the course of surgery and to use colloids.

Anaesthesia Management -- Monitoring includes ECG, NIBP, ETCO₂, Core Temp, SpO₂, Paw pressure, IBP / CNAP, CVP, PVI, PNS / BIS, Urine output. Bilateral peripheral IV access is valuable. Anesthesia can be maintained with IPPV (Oral cuff ETT), volatile agent Sevoflurane / Desflurane & short acting narcotics (Fentanyl), NDMR Air / O₂ Propofol / Dexmedetomidine Infusion BIS / Entropy can be used to monitor depth of anaesthesia & reduce anaesthesia requirements. To control increased Peak airway pressure PRESSURE CONTROLLED VENTILATION can be considered. Muscle relaxation is paramount in avoiding any movements by the patient while the surgical instruments are within the abdominal cavity. IJV should be cannulated with triple lumen catheter, a secure i/v access for giving fluid, drugs and / or blood products transfusion. It is advisable to use a fluid warmer. Invasive arterial monitoring is recommended for continuous BP monitoring. CNAP is an alternative. An orogastric tube and a urinary bladder catheter are placed. Convective-air body warmers are applied whenever possible. The surgical team should be capable of rapidly disengaging the robotic device if an airway or anesthesia emergency arises. As with any laproscopic procedure pneumoperitoneum pressurized with CO₂, ventilator adjustments (Tidal volume & Resp rate) may be required to normalize the exhaled CO₂.

Robotic Urological Surgery -- Advantage of Robotic Radical Prostatectomy & Cystectomy are decreased blood loss, less postoperative pain, early removal of Foley, early discharge. Anesthesia is maintained with oral ETT with volatile agent / Narcotics / IV Anaesthetics IPPV. Muscle relaxation is paramount. Convective air body warmers are used. Because of the long procedure, silicone gel pads are placed at pressure points. After inducing anesthesia the patient is positioned in a supine lithotomy position with 30 degrees of Trendelenburg incline. The prolonged Trendelenburg position may be relatively contraindicated in patients with history of stroke or cerebral aneurysm. To create pneumoperitoneum the maximum pressure should be set to 15 mm Hg.

Robotic Surgery at RGCi -- Our Experience - First Robotic RRP was performed in Feb 2011. Total no of robotic surgeries performed till date are 332. Radical Prostatectomy 47, Radical Hysterectomy 142. Radical Cystectomy with Neobladder 71, Nephrectomy 39, Inguinal LN Dissection 16, Lobectomy 2, Oesophagectomy 7, APR 3, RPLND 3, Adrenalectomy 2.

Complications Encountered -- Surgical : There was Occult bleed in 2 cases, development of fistula requiring redo surgery in one patient during learning curve. Surgical emphysema developed in 8 cases intraoperatively which resolved spontaneously Anaesthetic: Postoperative acute delirium developed in 3 cases, delayed recovery occurred in 4 cases and Postoperative Assisted ventilation was required in 5 cases.

Robotic Assisted Surgery – Future Directions

Today Robotic Surgery is well established and future seems promising. In future with telerobotic expert surgical care can be made available to remote areas. Anaesthesiologist have important role to play for providing safe anaesthesia.

Dr. (Col) A.K. Bhargava (Director-Anaesthesia)
Dr. Anita Kulkarni (Sr. Consultant-Anaesthesia)

ABBREVIATIONS

AC - Acromio Clavicular, FRC – Functional Residual Capacity, PAW – Peak Airway Pressure, SVR – Systemic Vascular Resistance, MAP –Mean Arterial Pressure, IBP – Invasive Blood Pressure, CVP – Central Venous Pressure, PCWP – Pulmonary Capillary Wedge Pressure, CI – Cardiac Index, IAP - Intra Abdominal Pressure, COP – Cardiac OutPut, CBF – Cerebral Blood Flow, ICP – Intra Cranial Pressure, GI – Gastro Intestinal, ECG – Electro Cardio Gram, NIBP – Non Invasive Blood Pressure, ETCO₂ - End Tidal Carbon Di Oxide, SpO₂- saturation of Oxygen, CNAP – Continuous Non-invasive Arterial Pressure, PVI – Pleth Variability Index, PNS – Peripheral Nerve Stimulator, BIS – Bi-Spectral Index, IPPV – Intermittent Positive Pressure Ventilation, NDMR – Non Depolarising Muscle Relaxant, IJV – Internal Juglar Vein, ETT – Endo Tracheal Tube.

CHRONIC MYELOID LEUKEMIA (CML) - PATIENTS MEET

In its endeavour to care beyond cure, Rajiv Gandhi Cancer Institute & Research Centre considers it a prime responsibility to create awareness about issues that challenge the CML cancer survivors and to educate about methods to tackle them. Survivor symposiums lay the platform for interaction with cancer specialists, strengthen their bonds & enlighten them with knowledge applicable during and after the treatment.

With above said goals in mind, RGCI&RC along with “Friends of Max” organized a meeting with CML patients with “What is my PCR” campaign at Tecnia auditorium, New Delhi.

Chronic Myeloid Leukemia (CML - a type of Blood Cancer) was used to be a fatal disease till few years back, as no easy and effective treatment was available other than bone marrow transplantation. The disease typically has three phases of evolution, 1. Chronic phase (or first stage), 2. Accelerated phase, 3. Blast phase (or last stage). Patients usually come in first phase of the disease but it always progresses to blast phase in few years without treatment. Now CML no longer rings a death bell. We have effective drug treatment of CML available which can control the disease, prevent its progression and is potentially curative. The credit not only goes to effective drugs but also to the sensitive approach of drug provider. Gleevec or Imatinib is the first drug which targets CML and better known as targeted therapy and is highly effective in controlling the disease. But it's a costly drug and not everybody can purchase it. In fact, majority of our CML patients were not able to afford this drug and were helpless, as despite being in era of Imatinib, not able to use it.

Thanks to The Max Foundation / Friends of Max which made it possible for everybody to get the Imatinib without hassles though a program called GIPAP.

The Max Foundation / Friend of max along with RGCI&RC took initiative to get all CML patients together though this meeting on 25th of November 2012. The event was inaugurated when the lamp was lit by Sh. D S Negi CEO, RGCI&RC, Dr Shyam Agrawal and Dr Dinesh Bhurani. Chief Guest Sh. D S Negi gave a motivational speech for patients and their families and congratulated them for their fighting spirits.

Ms. Viji Venkatesh and Ms. Aayeshah from Friends of Max and Dr Dinesh Bhurani welcomed and addressed the gathering. Ms. Viji Venkatesh thrown light over how Max foundation was founded and spread and what is it doing for CML patients. Dr Dinesh Bhurani and Dr Shyam Agrawal gave a brief detail of CML.

After this came much awaited patient-doctor interaction, “Ask the expert” session. Dr Dinesh Bhurani, Dr Shishir Seth, Dr Narendra Agrawal from RGCI&RC and Dr Shyam Agrawal from Sir Gangaram Hospital New Delhi, took the charge of solving queries, clearing doubts and myth busting about CML. Gathering participated in question-answer session with a great enthusiasm and shown their commitment to fight against CML.

On this occasion, RGCI&RC educated and empowered survivors through the new jet of life.



Mr. D. S. Negi (C.E.O.)
Dr. A. K. Chaturvedi
Dr. D. C. Doval
Dr. Gauri Kapoor
Dr. Anurag Mehta
Dr. S. A. Rao
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Dr. Sheh Rawat
Dr. S. K. Sharma
Dr. Amitabh Sandilium
Dr. Shivendra Singh
Dr. Swarupa Mitra

To:

If undelivered please return to :

Rajiv Gandhi Cancer Institute & Research Centre
Sector-V, Rohini, Delhi-110085

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Editor : Dr. A. K. DEWAN