Rajiv Gandhi Cancer Institute
and Research Centre
A Unit of Indraprastha Cancer Society
Registered under "Societies Registration Act 1860"

Architect's Impression of RGCI & RC (post expansion)

News Letter

Vol. XVIII No. 8 Price: 50 Paisa

EDITORIAL

EUTHANASIA DEBATE

Euthanasia (Greek Word- Good Death) is one of the most contested topics in medical ethics. Euthanasia is the act or practice of killing or permitting the death of hopelessly sick or injured individual in a relatively painless way for reasons of mercy. It means intentionally ending the life in order to relieve pain and suffering.

Euthanasia can be carried out either by taking action including giving a lethal injection (active euthanasia) or by not doing what is necessary to keep a person alive (passive euthanasia). In the later case, death is brought about by an omission i.e. when someone lets the person die by withdrawing or withholding treatment. Even though doctor doesn't kill the patient, he is aware that the result of his inaction will result in death of patient.

There is divisive public controversy over the moral, ethical and legal issues of euthanasia. Those who are against euthanasia may argue for the sanctity of life, while proponents of euthanasia emphasize alleviating sufferings, bodily integrity, self determination and personal autonomy. Jurisdictions where euthanasia or assisted suicide is legal include Netherland, Belgium, Luxembourg, Switzerland, Estonia, Albania, the US states of Washington, Oregon and Montana.

Historically the euthanasia debate has tended to focus on a number of key concerns. Proponents of euthanasia have presented these arguments 1) People have a right to self determination and they should be allowed to choose their own fate 2) Assisting a person to die might be a better choice than requiring that they continue to suffer 3) Allowing people to die may free up scarce health resources (possible argument) 4) Euthanasia happens anyway (an utilitarian or consequentialist argument) 5) Is death a bad thing? (philosophical argument) 6) The right to life is right to life with a minimum quality and value. Process of death is part of life. People have the right to die when and how they want to.

The major arguments presented by opponents of euthanasia are 1) Euthanasia involves killing the patient to eliminates pain while normal end of life care involves eliminating the pain so that patient can die painlessly from natural causes (progressive cancer) Don't kill a patient as a means of eliminating pain. Improve palliative care services 2) When patients and family get proper support, demand for euthanasia disappears. Patients who express the wish to die usually do so because they are in need of comfort, they are depressed or other symptoms are not being well managed. Often the requests come from tired family members. Mostly when family gets moral support, the demand disappears in the face of suffering. 3) Ending patient's life is not a humane solution to tragic situation of pain and suffering. Proposing euthanasia shows a lack of confidence in the progress of medical science 4) People who have not asked to die will be put to death. It would create unwarranted pressure on the chronically ill, the severely disabled and those who require a lot of assistance or expensive treatments. 5) A person is not valueless because he is chronically dependent or dying. Neither disease nor physical or mental decline, nor pain nor loss of autonomy can undermine the fundamental value of the human being. The solution to ensure "dying with dignity" lies in competent palliative approach. 6) Giving patients the right to die means giving doctors the right to kill. It indicates erosion of doctor patient relationship. Doctor is not simply a person who cures, relieves or comfort but a person who may facilitate death. 7) Most religions disapprove of euthanasia, some of them absolutely forbid it. God gives people life, so only God has the right to take it away.

But the million dollar question is "can we regulate euthanasia." It may be difficult to deal with people who want to implement euthanasia for selfish reasons or pressurize vulnerable patients into dying. Let us improve our palliative care services and address end of life care issues so that demand for euthanasia is reduced. The decision to die by euthanasia will affect other people – our family and friends – and we must balance the consequences for them (guilt, grief, anger) against our rights. The danger of violating the right to life is so great that we should ban euthanasia even if it means violating the right to die.

The debate continues!!

Dr. Dewan AK
Medical Director

PERITONEAL CARCINOMATOSIS IN COLORECTAL AND APPENDICEAL MALIGNANCIES: ROLE OF CRS AND HIPEC

Peritoneal metastasis by all standards is considered to be the last stage (stage IV disease). In the past, it was considered inoperable and patients were planned for palliative chemotherapy. However, this approach is associated with poor quality of life and is ineffective in improving survival. However, the pioneering work of Dr Paul Sugarbaker in the field of cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) has given a glimmer of hope for a select group of patients with peritoneal metastasis. The rationale for this particular approach is the restriction of tumor dissemination to the peritoneal compartment justifying a radical surgical procedure followed by HIPEC.

Although there is enough literature now to suggest that CRS and HIPEC is superior to systemic chemotherapy, it has not made its way into the routine management of stage IV disease as most of the treating surgeons still consider this strategy to be experimental. Similar thinking was considered for liver metastasis in colorectal cancers. But now surgery is considered as the treatment of choice for resectable liver metastasis of colorectal origin. Management of peritoneal surface malignancies requires a dedicated multidisciplinary team comprising of proactive surgeon, medical oncologist, anaesthesiologist, radiologist and intensivist.

Rationale behind CRS and HIPEC

Systemic chemotherapy is considered by most as the treatment of choice for patients with peritoneal metastasis. But, one of the main limiting factors governing dosimetry in systemic chemotherapy is hematological toxicity. In other words, the actual dose given intravenously is not so much the dose one wants to give based on cytotoxicity studies, but rather the dose tolerated by the patient's hematological reserve. But in CRS, all the visible disease is removed and chemotherapy is given at higher temperature intraperitoneally. This gives us an opportunity to give maximal dose of chemotherapy to the tumor cells without significant effect on hematological reserves. The rationale of HIPEC is the synergistic cytotoxic effect of heat, ideally 42 - 43°C, and the chemotherapeutic agent itself on tumor cells. Hyperthermia causes vasodilation with improvement in tumor oxygenation improving the effects of chemotherapeutic agents.

Procedure of CRS and HIPEC

The cytoreductive surgery consists of a laparotomy from xyphoid to pubis. The presence of macroscopic tumor deposits is recorded in 12 abdominal regions according to PCI chart (Peritoneal Carcinomatosis Index). The procedure involves removal of peritoneum from all the five regions – Right and Left hemidiaphragm, Right and Left paracolic gutters and pelvic peritoneum. All the disease involving small bowel and its mesentery is also removed which may also involve resection and anastomosis of small bowel. In order to achieve complete cytoreduction, many times adjacent organs need to be resected like anterior resection for deposits on sigmoid and pouch of douglas, distal gastrectomy, colectomies. The objective of cytoreduction is to leave no macroscopic tumor behind (CC - 0; complete cytoreduction); but, if that could not be achieved, attempts are made to leave no residual tumor exceeding 2.5 mm in thickness (CC - 1). Various animal studies have shown the effect of heated chemotherapy for tumor thickness upto 2.5mm

After completion of cytoreduction, the abdominal cavity is inspected for residual tumor. If there is no remaining macroscopic tumor, this is stated as R-1. If the largest residual tumor is smaller than 2.5 mm, it is regarded as an R-2a resection. In cases of residual tumors thicker than 2.5 mm, cytoreductive surgery is scored as R - 2b. Main benefits for HIPEC are for CC - 0 and CC - 1. However, people have shown some benefit of HIPEC for CC - 2 also. The limiting factor for complete cytoreduction in most of the cases is extensive small bowel resection. Those with extensive small bowel involvement (with deposits on mesenteric side of small bowel) are difficult to treat as removing whole of the disease for a CC-0 or CC-1 would require multiple resection and anastomosis.

The hyperthermic intraperitoneal chemotherapy is carried out according to the open colliseum technique or closed technique (which one is better has not been proved in any trials). Perfusion is started with a minimum of 2 litres of isotonic dialysis fluid, with an inflow temperature of 41– 42°C. As soon as the temperature in the abdomen is stable above 40°C, chemotherapeutic agents are added to the perfusate and circulated for 90 min. Drug used for intraperitoneal chemotherapy depends upon the primary disease. Position of the patient is changed to allow for complete mixing of drug in whole of the abdomen. In open technique, whole of the drug is mixed thoroughly so that it comes in contact of all the peritoneal surfaces. Patient is also given intravenous chemotherapy to increase the effect of intraperitoneal chemotherapy.

Before closing the abdomen the drains are inserted in all the five peritonectomy regions for the purpose of early postoperative chemotherapy.

Early Postoperative Intraperitoneal Chemotherapy (EPIC)

EPIC is another form of intraperitoneal chemotherapy given to patients who have received HIPEC. It is commenced on post operative day 1 and is continued for 5 days. It includes administering chemotherapeutic agents intraperitonealy through one of the abdominal drains and kept inside for 23 hours with all drains clamped. Position of the patient is changed for effective mixing of drug in all the quadrants of the abdomen. Drug is drained for next one hour by declamping all the drains and then readministered. This chemotherapy is given for 5 days.

Monitoring

During HIPEC, urine output should be monitored and should be more than 1ml/kg/hr. Care should be taken to avoid the spillage of chemotherapeutic drugs. During EPIC, these patients are prone to leucopenia. White cell counts should be daily monitored and if required Granulocyte-macrophage colony-stimulating factor (GM-CSF) should be administered.

Literature

Peritoneal carcinomatosis (PC) is present in 10% of patients at the time of diagnosis. Survival following best palliative chemotherapy has been dismal to about 6months although with introduction of targeted therapy the survival has significantly improved to about 22 months in few studies. However, best results were mainly found in patients with lung or liver metastasis. Patients with peritoneal disease continued to have poor survival compared to liver or lung metastasis. Surgical advances have improved survival in these patients.

Recent data suggests that patients with PC may have an option of cyto reductive surgery (CRS) to treat visible disease and HIPEC (Hyperthermic IntraPeritoneal Chemotherapy) to treat non visible peritoneal disease with favourable results. A randomized trial comparing HIPEC and CRS vs systemic chemotherapy alone showed a significant improvement in survival following HIPEC.

Dr. Sugarbaker et al reviewed 2300 patients of pseudomyxoma peritonei of appendiceal origin and found that following CRS + HIPEC, median survival rate was astonishingly 16.3 years. The overall 3-, 5-, 10-, and 15-year survivalrates were 80%, 74%, 63%, and 59%, respectively.

Another option for patients with peritoneal disease is complete cytoreduction without HIPEC. Results of incomplete resection versus complete resection have shown favorable results for complete cytoreduction. Glehen in his "world series" had shown that patients with gross complete cytoreduction had a median overall survival of 35.4m compared to only 8.4m for patients with incomplete cytoreduction. Thus this procedure offers a ray of hope in patients who otherwise had dismal outcomes following best of chemotherapy to patients with peritoneal carcinomatosis.Although robust data is still not present, but preliminary results favour use of HIPEC along with complete CRS. Most important factor is that CRS should be complete, as incomplete CRS with HIPEC showed poor results similar to those receiving systemic chemotherapy. Randomized trial comparing this issue is still ongoing and the results are still awaited (Prodige 7)

A study published in 2009 compared patients of PC with those receiving CRS plus HIPEC to those with CRS with systemic chemotherapy. 5 year survival was 51% with CRS plus HIPEC group compared to 13% for non HIPEC group.

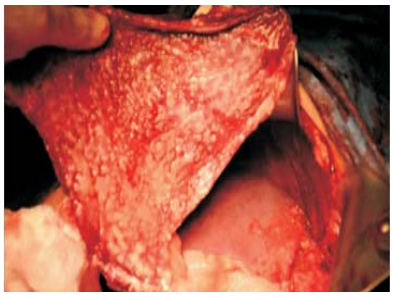

Fig 1: Figure shows patient of pseudomyxoma peritonei with extensive diaphragmatic deposits.

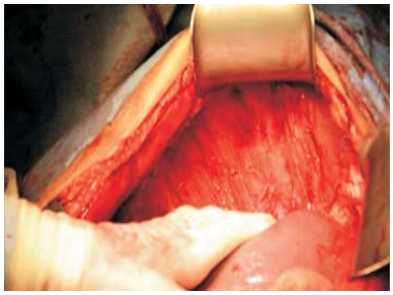

Fig 2: Figure shows same patient after complete peritonectomy.

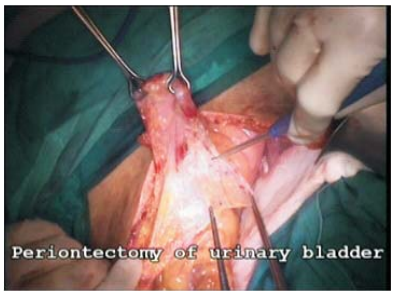

Fig 3: Figure showing pelvic peritonectomy of the same patient

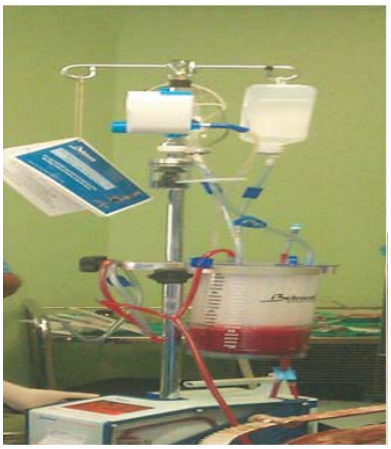

Fig 4: Dedicated Belmonte Machine to administer hyperthermic chemotherapy

Selection criteria for CRS and HIPEC

1. Patients with colorectal malignancy with peritoneal disease
2. No evidence of extra abdominal disease.
3. Good performance status
4. PCI score less than 20
5. Patients with good response to neoadjuvant chemotherapy

Contraindications to CRS and HIPEC

1. Poor general status
2. Presence of extraperitoneal metastases
3. Huge and diffuse PC.
4. Presence of CRLMs (relative)

Concept of Second Look Laparotomy

All studies have shown that patients who benefit most with HIPEC and CRS are those with less bulky peritoneal disease. However, detecting early PC is not possible with current clinical or radiological means. It is possible only with laparotomy. So a second look laparotomy may be performed with the aim of diagnosing PC at an early stage and treat it with CRS with HIPEC. But this is a major undertaking and a specific group of patients only should be considered for a prophylactic "Second Look Laparotomy". Such at-risk population was defined by Sugarbaker et al-

1. Visible evidence of peritoneal carcinomatosis
2. Ovarian cysts showing adenocarcinoma suggested to be of gastrointestinal origin
3. Positive cytology either before or after cancer resection
4. Adjacent organ involvement or cancer-induced fistula
5. Obstructed cancer
6. Perforated cancer
7. T3 mucinous cancer
8. T4 cancer or a positive "touch prep" of the primary cancer
9. Cancer mass ruptured with the resection
10. Positive lateral margins of excision

A multicentric RCT (Prodige 15) has been started in 2011that compares high risk group patients to either systemic chemotherapy or second look laparotomy. Main aim of this would be to see the rate of peritoneal recurrence after 3 years.

CRS and HIPEC at RGCI

Rajiv Gandhi Cancer Hospital is the first hospital in India to have a dedicated machine (Belmonte) to administer hyperthermic chemotherapy. Over the past one and a half years, we at RGCI have operated upon nearly 20 patients of PC. Primary disease was mainly from colon (12), appendix (6), small bowel (1) and peritoneal mesothelioma (1). Till now all except one are surviving with good result and most of them are disease free.

Conclusion

Up to 15% of patients with metastatic colorectal cancer have isolated peritoneal carcinomatosis. Peritoneal carcinomatosis in colorectal cancer carries poor prognosis. Systemic chemotherapy can marginally improve survival.Cytoreductive surgery + HIPEC is the only hope to improve long term survival or may even cure selected patients with peritoneal carcinomatosis.

Dr. Singh Shivendra, Sr. Consultant & Chief, GI Oncosurgery & Liver Transplantation
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Date of Printing – 26th August 2014
Date of Publishing – 30th August 2014

Posted at : Ashok Vihar Head Post Office, Delhi-110052
Registered with Registrar of Newspaper Under No. 68797/98
Postal Department Registration No. DL(N)/004/2012-14
Licensed to Post without prepayment under No.:"U"(DN)-162/2012-14

CONTINUING MEDICAL EDUCATION PROGRAMME - KARNAL, AUGUST 2nd, 2014

Rajiv Gandhi Cancer Institute & Research Centre organized a CME in association with IMA (Karnal Chapter), for the doctors of Karnal, on Saturday the 2nd of August 2014. The CME included two scientific talks on Neuro Oncology by super specialists of RGCI & RC.

Dr. P. K. Sachdeva (Neuro Surgery) spoke about Recent Advances in Brain Tumor Management, aimed at bringing the doctors of Karnal up to date with the latest technological advances as well as the current practices in neurosurgical oncology. Dr. Sheh Rawat (Radiation Oncology) focused his talk on the Role of Radiotherapy in Management of Brain Tumors, and brought to the fore recent developments in accurate & efficient cancer care through radiotherapy.

The programme was attended by 108 doctors from Karnal who included general surgeons, ENT specialists, Neurosurgeons, Neurologists, Family Medicine specialists and Internal Medicine specialists.


CONTINUING MEDICAL EDUCATION PROGRAMME – ALLAHABAD & KANPUR

RGCI & RC recently participated in two Continuing Medical Education Programmes for ENT Practitioners, at Allahabad and Kanpur. The programmes were held on 2nd and 3rd August respectively, and received an enthusiastic response from the medical fraternity of the two cities. Dr A K Dewan (Sr Consultant, Head & Neck Surgical Oncology), Dr D C Doval (Sr Consultant & Head, Medical Oncology) and Dr Manoj Sharma (Consultant, Radiation Oncology) presented talks on detection & diagnosis of Head and Neck cancers.


INDEPENDENCE DAY CELEBRATION

To mark India's 68th Independence Day, this year The Department of Pediatric Hematology and Oncology at RGCI & RC organized a get together on 12th August 2014, for children with cancer undergoing treatment at the Institute.

PLANTATION DRIVE 2014

In step towards making Delhi a Green City, a TREE PLANTATION drive was carried out at RGCI & RC under the guidance of DPCC.

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Marketing Department, B-Block Basement, Old Building
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Printed & Published by Mr. K. K. Mehta on behalf of Indraprastha Cancer Society & Research Centre and Printed at Raju Art Printers, 18-A, Old Gobind Pura Extn., Street No. 2, Parwana Road, Delhi-51, Tel. : 9871006333, Published from RGCI&RC, Sector-V, Rohini, Delhi-110085

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