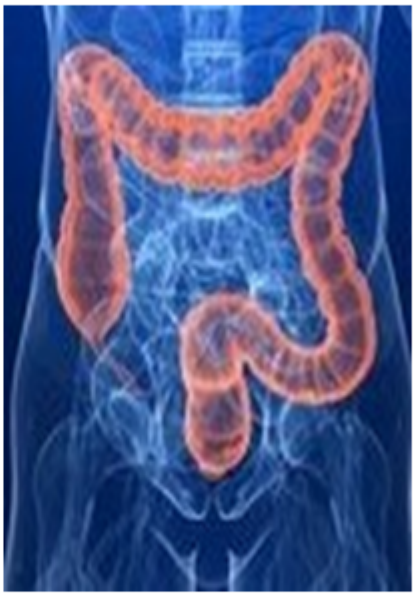
REGIONAL CANCER CENTRE BULLETIN

Issue 1 - September 2009

JIPMER Cancer Update, Puducherry - 605006



FOCUS - COLORECTAL CANCER

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http://sites.google.com/site/jipmerrccorg

Regional Cancer Centre

The department of Radiotherapy has grown since its creation in 1987. It was conferred the status of Regional Cancer Centre (RCC) in 2002.

The purpose of establishing the regional cancer centre is to provide a comprehensive cancer treatment under one roof.

RCC is equipped with state-of-art modern machines like Linear accelerator, Telecobalt therapy unit, HDR brachytherapy for treating various types of cancer patients. On an average of 2000 patients with cancer are treated annually and the department coordinates with the medical and surgical departments.

Augmentation of Regional Cancer Center was done in year 2008 with a separate building having 100 beds, spacious out patient department (OPD), Day care centre, intensive care units (ICU) and installation of Acuity Varian Simulator in order to improve patient care and quality of treatment. Post graduate MD course in radiotherapy was started in year 2009.

During the year 2009-10 further expansion is planned, by adding more sophisticated equipments like IMRT, CT-simulator and a new brachytherapy unit.

Department of Medical Oncology and Surgical Oncology started functioning from 2009 in coordination with Radiotherapy department to provide efficient patient care services and to make RCC a comprehensive cancer care centre.

Editorial office

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Editorial

The first issue of the RCC bulletin is in your hands. We at RCC have ventured to start continuing educational programmes quarterly and also bring out a bulletin.

For this first CME programme we have chosen Colorectal cancer as the theme. Though colorectal cancers are more common in the western world they are becoming increasingly more frequent in our country.

They take many years to develop and screening methods would result in early diagnosis and decrease mortality significantly. These are curable if diagnosed and treated early.

While surgery remains the primary treatment chemotherapy and radiotherapy may be recommended depending upon the extent of disease.

In 2008, researchers announced that colorectal cancers with mutation in the K-RAS do not respond to certain therapies, those that inhibit EGFR, namely cetuximab and panitumomab.
Upto 40 % of the patients having wild type of K-Ras seem to benefit with an increase in overall survival.

BCG is being investigated in immunotherapy and vaccine is under trial. Gene-based treatments are underway.

Recently it was observed that Aspirin reduces the risk of Colorectal cancer and may influence the survival after the diagnosis is made.

We have included write-ups and abstracts from recent journals.

We wish our readers a happy reading and shall welcome their contributions and comments to further improve the quality of the bulletin and make it a regular feature.

Dr. K.S. Reddy

Colon Cancer : Chemoprevention and its present status

Colon cancer is a leading cause of cancer mortality worldwide and a lot of efforts have been made to decrease the morbidity and mortality due to it.

Screening programs have been effective in early detection leading to better survival. However, compliance with these screening programs is poor and hence, a lot of efforts have gone into investigating whether colon cancer can be prevented by the use of certain foods or other chemical agents.

The first and the most significant set of agents in chemoprevention of colorectal cancer are the NSAIDs. Numerous trials have shown activity of these NSAIDs in reducing colorectal cancer mortality. Aspirin in a low dose of 81 mg/day was shown to decrease the relative risk of colorectal cancer to 0.6.

COX 2 Inhibitors have shown benefit in randomized clinical trials and as a result, Celecoxib is currently FDA approved for chemoprevention in patients with familial adenomatous polyposis. The cardiac toxicities of these agents preclude their use in the general population.

A number of other agents were assessed for their chemopreventive qualities. Of these, selenium containing compounds such as those naturally occurring in garlic have shown in animal studies to prevent development of adenomas.These are currently under investigation in humans.

Also circumin,folate, dietary fibre have been shown to have a weak benefit in prevention of colon cancer.

Chemopreventive agents	
Agents	Mechanism
NSAIDS	Inhibition of COX 2.
Folate	Increased intracellular folate pools.
Calcium	Binding of bile acids. Direct Inhibition of epithelial cell proliferation.
Estrogens	Decreased synthesis of secondary bile acids. Decreased production of IGF 1.

Other compounds under study are calcium which was shown to decrease mortality in FAP patients in a small randomized trial. Its activity might be a result of binding bile acids and decreasing their effect on the mucosa.

Estrogens, in the form of HRT also have a chemopreventive role in colon cancer by decreasing synthesis of secondary bile acids and direct effects on colonic mucosa.

Many trials have shown activity of sulindac in chemoprevention. The combination of sulindac and DFMO (Difluoromethylornithine), currently under investigation is showing great promise.

Overall, the present status is that we have one approved agent for prevention and many more on the way. The future for chemoprevention of this dreadful disease seems exciting with a lot of potential.

(Dr. Muzammil Asif, Dept. of Radiotherapy)

Modified Triple Staple Technique for anastamosis after Low Anterior resection (LAR)-Avoiding the purse string suture

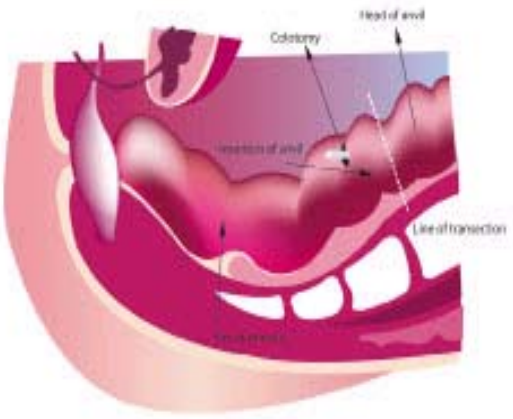
Stapled anastomosis after anterior resection has established itself as the preferred technique of approximation with a low rate of complications. Various modifications in the application of the stapling technique have evolved since its inception.

The double staple technique of anastomosis following an anterior resection has gained widespread acceptance over the single staple technique. The triple stapled technique was introduced initially in animals and its safety in humans was later substantiated.

The technique described here is a modification of the triple staple technique with ease of application, minimal contamination and avoidance of the purse string suture.

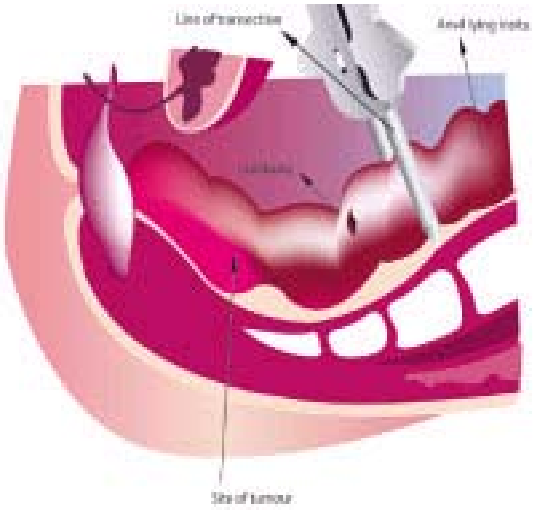
Technique:

Step 1



Having determined the line of transection of the proximal bowel, a small colotomy is made 2-3cm distal to the line of transection.The separated and well-lubricated anvil of a circular stapler is introduced through the colotomy and is milked proximally with the head lying cephalad.

Step 2



A GIA 50 linear cutting stapler is fired across the line of transection, thus freeing the proximal segment with the anvil in situ. The colotomy in the distal colonic segment is closed with sutures.

Total mesorectal excision is performed and the rectum/anus cross-stapled.

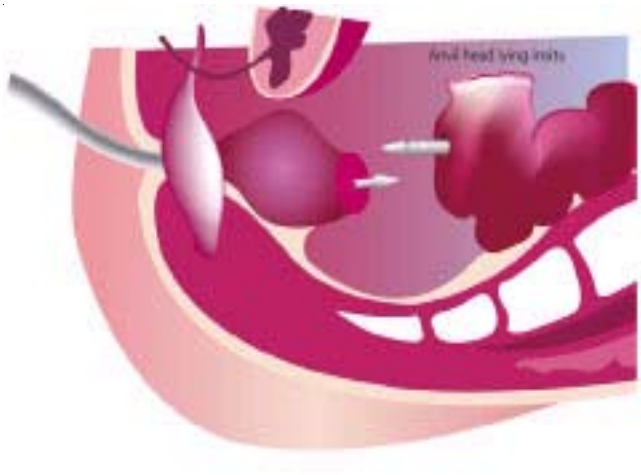
The proximal colon is assessed for viability and the pointed end of the anvil is then exteriorised by piercing it through the antimesenteric taenia coli at 5cm proximal to the stapled end of the proximal segment.

The anvil now sits snugly proximal to the stapled end without any purse string suture.

A single suture can be placed to ensure that the exit point is watertight.

This also gives the reassurance of division of the ends of the suture at firing of the circular stapler, indicating successful knife deployment.

Step3



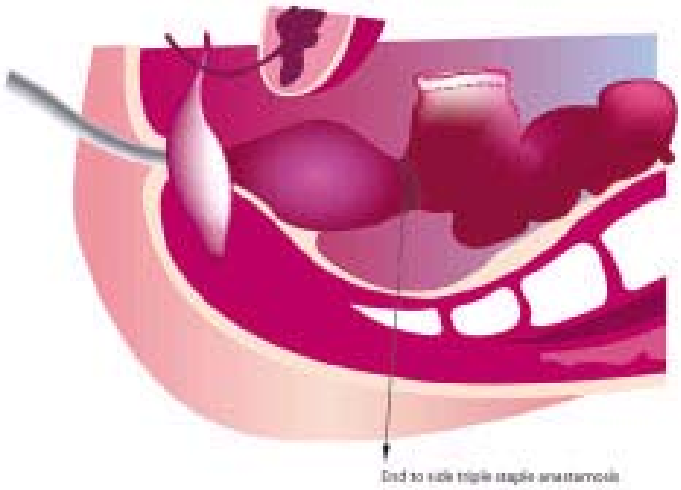
The long arm of the circular stapler is passed per anum and the trocar brought through the rectal staple line.

End to side anastomosis is completed by approximating, locking and firing the end of the circular stapler.

A defunctioning ileostomy is performed selectively for proximal faecal diversion.

A gastrograffin enema is planned at three to four weeks after surgery to assess anastomotic integrity and calibre.

Completed Anastomosis

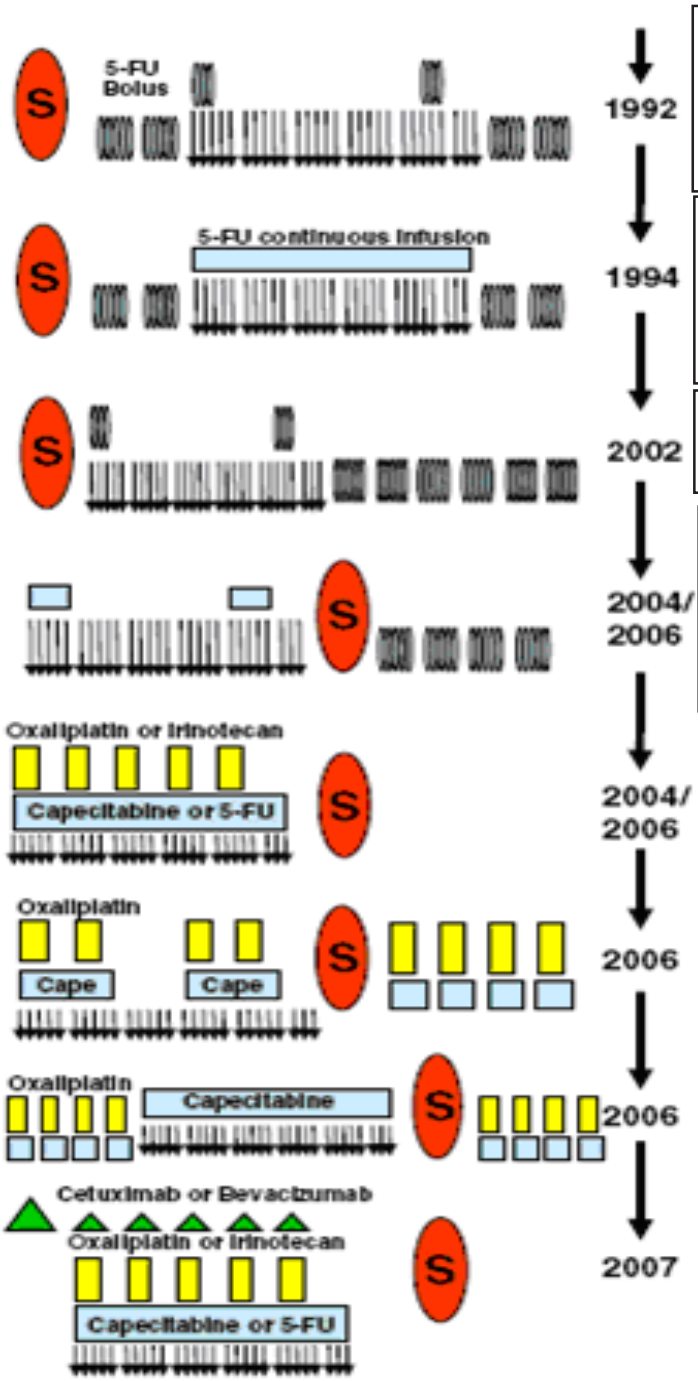


The ergonomics of this modified stapling technique obviates the need for a purse string suture and limits the duration of the exposure to faecal contamination to the colotomy phase only.

The post-operative surgical complications following this technique are comparable to the existing techniques in terms of anastomotic leak andstricture formation.

(Dr. R. Aravind, Dept. of Surgical Oncology)

Paradigm shift in the Management of Rectal Cancer



GITSG 7175 and NCCTG/Mayo 794751: Superiority of combined CRT over surgery alone or adjuvant RT and CT alone.
GITSG 7180: Six cycles of bolus 5-FU, RT with 3./4.cycle. Methyl-CCNU plus 5-FU not superior to 5-FU alone.

NCCTG 864751: 5-FU continuous infusion during RT superior to bolus 5-FU for disease free and overall survival (not confirmed by the more recent INT 0144). Modulation of 5-FU through addition of folinic acid, levamisol, or of both, not superior to bolus 5-FU alone (INT 0114).

Korean Trial: Start of RT together with 1./2. versus 3./4. cycle of 5-FU/folinic acid improved disease-free survival.

German Rectal Cancer study (CAO/ARO/AIO- 94): Preop. superior to postop. CRT for local control, sphincter preservation, toxicity.
EORTC 22921; FFCD 9203: Preoperative RCT with 5-FU/folinic acid superior to preoperative R T alone for local control. None of the three trials showed improved survival.

Several phase I/II-studies incorporated novel chemotherapy combinations into preoperative RCT: pCR rates 9-36%; increased, but manageable acute toxicity. The question of postoperative chemotherapy was not addressed.

Multicenter phase II trial of the German Rectal Cancer Study Group: Preoperative RCT active and feasible (pCR rate 16%, compliance 96%). Only 60% of patients received all four cycles of chemotherapy. CORE-study with similar results.

Integration of neoadjuvant chemotherapy prior to RCT for MRI-defined poor-risk rectal cancer.

Intergration of targeted therapy (cetuximab and bevacizumab) into combined modality programs for rectal cancer.

Key Points:

- Continuous infusion 5-FU concomitantly with preoperative radiotherapy (RT) and four cycles of 5-FU as additional systemic treatment following total mesorectal excision is the current standard of care.
- The development of distant metastases is now the predominant mode of failure for rectal cancer.
- Contemporary chemotherapeutics, such as oral fluoropyrimidines, oxaliplatin, irinotecan, and targeted therapies, such as bevacizumab and cetuximab, have been incorporated into phase I and II studies with preoperative RT.
- Phase III trials are ongoing to determine whether these novel combination regimens offer an advantage compared with 5–FU-based combined modality programs.

(Dr. Pooja Sethi, Dept. of Radiotherapy)

Role of Molecular targeted therapy in Metastatic Colorectal Cancer

Introduction

The treatment of metastatic colorectal cancer (mCRC) has changed dramatically from the 1980s, when only fluorouracil (5-FU) was available for treatment and the median survival was at best 12 months, to a time when mCRC is considered more of a chronic disease in which the median survival is now reported in excess of 2 years.

In previous years, advances in treating colorectal cancer have resulted mainly from the development of new chemotherapy agents and new combinations of such agents. More recently, improved outcomes have been associated with the introduction of targeted therapies.

Three monoclonal antibodies — bevacizumab, cetuximab, and panitumumab - are currently approved by the US Food and Drug Administration (FDA) and European Agency for the evaluation of medicinal products, for patients with advanced colorectal cancer. Antiangiogenic antibody (bevacizumab) improves survival when added to chemotherapy

Bevacizumab

Bevacizumab, antiangiogenesis agent, is a humanized monoclonal antibody that binds to the vascular endothelial growth factor (VEGF). VEGF is the main stimulus for angiogenesis. By blocking the ability of VEGF to bind to its receptor, bevacizumab interferes with the formation of new blood vessels that supply the tumor.

Bevacizumab got approval by FDA in February 2004 for metastatic colon cancer. Bevacizumab is indicated for first- or second-line treatment in combination with modern chemotherapy regimens that include drugs, such as oxaliplatin, irinotecan, and fluoropyrimidines.

FDA approval was based on separate studies showing that the addition of bevacizumab to chemotherapy improves response rate, progression-free survival, and overall survival in both the first-line[1] and second-line[2] settings, respectively.

Recommended dosage is 5mg/kg I/V infusion over 60 minutes after chemotherapy, once every 14 days. The major toxicities of bevacizumab are vascular, and they include wound breakdown, bleeding, and stroke (acute thromboembolic events). Drug should not be initiated for atleast 28 days following major surgery. The surgical incision should be fully healed prior to initiation of drug.

Cetuximab and Panitumomab

Epidermal growth factor receptor (EGFR) is overexpressed in over 80% of colorectal cancers.[3] Cetuximab (a chimeric monoclonal antibody) and panitumumab (a humanized monoclonal antibody) bind to the external domain of the EGFR and block cell signaling, which interferes with cell proliferation. The fact that panitumumab is a humanized monoclonal antibody suggests that it may have less allergenic potential than cetuximab.

Cetuximab was FDA approved in February 2004, on the basis of results of a randomized trial[4] presented at the annual meeting of the American Society of Clinical Oncology (ASCO) in 2003 for second and subsequent lines of treatment in patients with advanced colorectal

cancer whose disease progressed while on irinotecan.

The recommended dose is 400 mg/ m^2 I/V infusion over 120 minutes as a loading dose followed by maintenance dose of 250mg/m^2 I/V infusion over 60 minutes weekly.

The BOND study[5] conducted in Europe looked at a similar population that included 329 patients with advanced colorectal cancer who progressed on irinotecan and were randomized to receive either irinotecan plus cetuximab or cetuximab alone. Seventy percent of the study patients had also been treated with oxaliplatin. The response rate for the combination was 23%, and for single-agent cetuximab, 11% — responses that were similar to those observed in the US study.

Panitumumab is the newest monoclonal antibody to be approved for advanced colorectal cancer by the FDA in September 2006. Unlike cetuximab, Panitumumab is not approved thus far for combined use with chemotherapy, and is indicated only after disease progression in patients who have been treated with oxaliplatin, irinotecan, and a fluoropyrimidine. Approval was based on the results of the panitumumab pivotal trial[6]; presented at the 2006 annual meeting of the American Association for Cancer Research. Recommended dosage is 6 mg/kg IV infused over 60 min every 14 days.

With both cetuximab and panitumumab, the major toxicity is an acne-like rash that can range from minimal to cosmetically significant. Of note, the occurrence of rash is associated with higher response rates and longer survival.[7] EGFR receptors are found on the skin and hair follicles, so it appears that if the skin is sensitive to these drugs, the tumors will be, too.

K-RAS - a marker of response

Activating mutations of the K-Ras family of genes are the most common genetic events in tumorigenesis and have been implicated as a predictive factor in determining response to anti-EGFR drugs in pivotal studies.

Phase II and III trials, conducted for investigating the role of K-Ras status on anti-EGFR treatment, revealed that patients with wild-type K-Ras had better clinical response in terms of prolonged median progression-free survival and overall response rates when compared to who have KRAS mutations detected in codon 12 or 13.

In contrast, patients with mCRC benefit from anti-VEGF treatment irrespective of K-Ras status. The studies concluded that pretreatment testing of K-Ras in patients with mCRC offers valuable information in deciding treatment options.[8,9]

Future directions

Cetuximab and bevacizumab have now been incorporated into phase I-II studies of preoperative chemoradiation therapy (CRT) for rectal cancer.[10] Zalutumumab (IgG1 human anti-EGFR monoclonal antibody), apart from EGFR inhibition, possess another anti-neoplastic effect mediated by antibody-dependent cell cytotoxicity and is under clinical development, for colorectal cancer.[11]

Other targeted agents, for example, the tyrosine kinase inhibitors erlotinib, gefitinib, sunitinib, and vatalanib, are currently in various stages of clinical development.

Indications for use of monoclonal antibody in metastatic colorectal cancer

Antibody	*FDA Approval*	*FDA Indications*	*Dose Schedule*
Bevacizumab (Humanized Anti VGEF)	*2004*	*1st & 2nd line setting combined with chemotherapy*	*5mg/kg I/V infusion over 60 minutes after chemotherapy, q14 days*
Cetuximab (Chimeric Anti EGFR)	*2004*	*Alone or in combination with irinotecan in 2nd line setting*	*Loading dose- 400 mg/ m^2 I/V infusion over 120 minutes. Maintenance dose- 250mg/m^2 I/V infusion over 60 minutes weekly*
Panitumumab (Humanized Anti EGFR)	*2006*	*Alone (in setting of failure or disease progression on chemotherapy)*	*6 mg/kg IV infused over 60 min, q14 days*

Conclusion

New treatments directed toward molecular targets have emerged and are being developed to improve these results, but there is a need to optimize and define the best use of these new approaches. The integration of biomarker analysis i.e KRAS genotyping into the clinical routine represents an important step toward customized treatment of cancer.

References

1. Hurwitz H. Bevacizumab plus irinotecan, fluorouracil, and leukovorin for metastatic colorectal cancer. N Engl J Med 2004;350:2335-2342.
2. Giantonio BJ, Catalano PJ, Meropol NJ, et al. High-dose bevacizumab improves survival when combined with FOLFOX4 in previously treated advanced colorectal cancer. Results from the Eastern Cooperative Oncology Group (ECOG) study E3200. J Clin Oncol 2005;23:248.
3. Spano JP, Lagorce C, Atlan D, et al. Impact of EGFR expression on colorectal cancer patient prognosis and survival. Annals of Oncology 2005;16:102–108.
4. Cunningham D, Humbet Y, Siena S, et al. Cetuximab (C225) alone or in combination with irinotecan (CPT-11) in patients with epidermal growth factor receptor (EGFR)-positive irinotecan-refractory metastatic colorectal cancer (MCRC). Proc ASCO 2003;22:252.
5. Cunningham D, Humblet Y, Siena S, et al. Cetuximab monotherapy and cetuximab plus irinotecan in irinotecan-refractory metastatic colorectal cancer. N Engl J Med 2004;351:337-345.
6. Gibson TB, Ranganathan A, Grothey A. Randomized phase III trial of panitumumab, a fully human anti-epidermal growth factor receptor monoclonal antibody, in metastatic colorectal cancer. Clin Colorectal Cancer 2006;6:29-31.
7. Saltz L, Kies M, Abbruzzese JL, et al. The presence and intensity of the cetuximab-induced acne-like rash predicts increased survival in studies across multiple malignancies. Proc Am Soc Clin Oncol 2003;22:204.
8. Allegra CJ, Jessup JM, Somerfield MR, et al. American Society of Clinical Oncology provisional clinical opinion: testing for KRAS gene mutations in patients with metastatic colorectal carcinoma to predict response to anti-epidermal growth factor receptor monoclonal antibody therapy. J Clin Oncol 2009;27:2091-6.
9. Saif MW, Shah M. K-ras mutations in colorectal cancer: a practice changing discovery. Clin Adv Hematol Oncol 2009;7:45-53.
10. Marquardt F, Rödel F, Capalbo G, et al. Molecular targeted treatment and radiation therapy for rectal cancer. Strahlenther Onkol. 2009;185:371-8.
11. Rivera F, Salcedo M, Vega N, et al. Current situation of zalutumumab. Expert Opin Biol Ther 2009;9:667-74.

(Dr. Pooja Sethi, Dept. of Radiotherapy)

Colon Cancer Screening: Is it only a swallow away?

Capsule endoscopy versus colonoscopy for the detection of polyps and cancer. van Gossum A, Navas MM, Fernandez-Urien I, et al. N Engl J Med. 2009;361:264-270.

Background

An ingestible capsule consisting of an endoscope equipped with a video camera at both ends was designed to explore the colon. This study compared capsule endoscopy with optical colonoscopy for the detection of colorectal polyps and cancer.

Methods

We performed a prospective, multicenter study comparing capsule endoscopy with optical colonoscopy (the standard for comparison) in a cohort of patients with known or suspected colonic disease for the detection of colorectal polyps or cancer. Patients underwent an adapted colon preparation, and colon cleanliness was graded from poor to excellent. We computed the sensitivity and specificity of capsule endoscopy for polyps, advanced adenoma, and cancer.

Results

A total of 328 patients (mean age, 58.6 years) were included in the study. The capsule was excreted within 10 hours after ingestion and before the end of the lifetime of the battery in 92.8% of the patients. The sensitivity and specificity of capsule endoscopy for detecting polyps that were 6 mm in size or bigger were 64% (95% confidence interval [CI], 59 to 72) and 84% (95% CI, 81 to 87), respectively, and for detecting advanced adenoma, the sensitivity and specificity were 73% (95% CI, 61 to 83) and 79% (95% CI, 77 to 81), respectively. Of 19 cancers detected by colonoscopy, 14 were detected by capsule endoscopy (sensitivity, 74%; 95% CI, 52 to 88). For all lesions, the sensitivity of capsule endoscopy was higher in patients with good or excellent colon cleanliness than in those with fair or poor colon cleanliness. Mild-to-moderate adverse events were reported in 26 patients (7.9%) and were mostly related to the colon preparation.

Conclusions

The use of capsule endoscopy of the colon allows visualization of the colonic mucosa in most patients, but its sensitivity for detecting colonic lesions is low as compared with the use of optical colonoscopy.

Laparoscopic versus open surgsery for rectal cancer

Laparoscopic versus open surgsery for rectal cancer: long term oncologic results. Laurent C, Leblanc F, Wütrich P, Scheffler M, Rullier E. Ann Surg 2009 Jul;250(1):54-61.

Objective:

The goal was to assess long-term oncologic outcome after laparoscopic versus open surgery for rectal cancer and to evaluate the impact of conversion.

Background:

Laparoscopic resection of rectal cancer is technically feasible, but there are no data to evaluate the long-term outcome between laparoscopic and open approach. Moreover, the long-term impact of conversion is not known.

Methods

Between 1994 and 2006, patients treated by open (1994-1999) and laparoscopic (2000-2006) curative resection for rectal cancer were included in a retrospective comparative study. Patients with fixed tumors or metastatic disease were excluded. Those with T3-T4 or N+ disease received long course preoperative radiotherapy. Surgical technique and follow-up were standardized. Survival were analyzed by Kaplan Meier method and compared with the Log Rank test.

Results

Some 471 patients had rectal excision for invasive rectal carcinoma: 238 were treated by laparoscopy and 233 by open procedure. Postoperative mortality (0.8% vs. 2.6%; P = 0.17), morbidity (22.7% vs. 20.2%; P = 0.51), and quality of surgery (92.0% vs. 94.8% R0 resection; P = 0.22) were similar in the 2 groups.

At 5 years, there was no difference of local recurrence (3.9% vs. 5.5%; P = 0.371) and cancer-free survival (82% vs. 79%; P = 0.52) between laparoscopic and open surgery. Multivariate analysis confirmed that type of surgery did not influence cancer outcome. Conversion (36/238, 15%) had no negative impact on postoperative mortality, local recurrence, and survival.

Conclusions

The efficacy of laparoscopic surgery in a team specialized in rectal excision for cancer (open and laparoscopic surgery) is suggested with similar long-term local control and cancer-free survival than open surgery. Moreover, conversion had no negative impact on survival.

Predicting Response to Cetuximab Via Circulating Tumor Cells in Metastatic Colorectal Cancer.

Detection of KRAS Oncogene in Peripheral Blood as a Predictor of Response Cetuximab Plus Chemotherapy in Patients With Metastatic Colorectal cancer. Yen LC, Yeh YS, Chen CW, et al.Clin Cancer Res. 2009;15:4508-4513.

Summary

Investigators in Taiwan evaluated KRAS mutation status in 76 patients with metastatic colorectal cancer treated with cetuximab plus FOLFOX or FOLFIRI using DNA sequencing of tumor tissue as well as gene expression arrays in circulating tumor cells in the peripheral blood.

Thirty-three patients (43%) had KRAS mutations in tumor tissue and 30 patients (40%) had mutations in peripheral blood. A strong correlation ($P < .0001$) was observed between the demonstration of mutations in the circulating tumor cells and the malignant tissue.

In addition, regardless of whether mutation status was assessed in tumor tissue or circulating tumor cells, the majority of responders to the cetuximab-containing regimen had wild-type KRAS ($P < .001$) and experienced superior progression-free and overall survival vs patients with mutant KRAS ($P < .0001$), confirming results seen in larger clinical trials assessing KRAS mutation status using tumor tissue alone.

Radiation Therapy for Liver Metastases

By Laura A. Dawson, MD
From the Department of Radiation Oncology, Princess Margaret Hospital, University of Toronto, Canada. 2008

♦ Technologic advances in radiation oncology (including computerized tomography-based conformal planning, breathing motion management, and image guidance) at the time of radiation delivery have made it possible for high doses of highly conformal radiation to be safely delivered to focal liver metastases.

♦ Stereotactic body radiation therapy, referring to the delivery of highly potent doses of conformal radiation therapy, has also been used to safely treat liver metastases less than 6 cm in maximum diameter.

♦ A variety of radiation fractionation schemes have been used to safely treat liver metastases ranging from 20 Gy delivered in a single fraction to 90 Gy in 1.5 Gy delivered twice daily over 8 weeks.

♦ The most suitable patients with liver metastases for radiation therapy are those with unresectable tumors, no extrahepatic disease, at least 700 mL of nontumorous liver, and tumors less than 8 cm in maximum diameter.

♦ Sustained local control is possible following radiation therapy, and there is rationale for studying highly conformal radiation therapy in radiation therapy.

Colorectal Cancer Patients taking Aspirin Live Longer

Aspirin Use and Survival After Diagnosis of Colorectal Cancer. Andrew T. Chan, Shuji Ogino, Charles S. Fuchs. *JAMA*. 2009;302(6):649-658.

Methods

Prospective cohort study of 1279 men and women diagnosed with stage I, II, or III colorectal cancer. Participants were enrolled in 2 nationwide health professional cohorts in 1980 and 1986 prior to diagnosis and followed up through June 1, 2008.

Results

After a median follow-up of 11.8 years, there were 193 total deaths (35%) and 81 colorectal cancer–specific deaths (15%) among 549 participants who regularly used aspirin after colorectal cancer diagnosis, compared with 287 total deaths (39%) and 141 colorectal cancer–specific deaths (19%) among 730 participants who did not use aspirin. Among 459 participants with colorectal cancers that were accessible for immunohistochemical assessment, the effect of aspirin differed significantly according to cyclooxygenase 2 (COX-2) expression (*P* for interaction = .04). Regular aspirin use after diagnosis was associated with a lower risk of colorectal cancer–specific mortality among participants in whom primary tumors overexpressed COX-2 (multivariate HR, 0.39; 95% CI, 0.20-0.76).

Conclusion

Regular aspirin use after the diagnosis of colorectal cancer is associated with lower risk of colorectal cancer–specific and overall mortality, especially among individuals with tumors that overexpress COX-2.

RCC, ACADEMIC ACTIVITIES –YEAR 2009

ACHIEVEMENTS

1. Awarded second prize for oral presentation to Dr. Sanjay Kumar Mishra in the conference BRECON 2009, held at Madurai, 7th and 8th March 2009.
2. Awarded third prize in medical quiz to Dr. Aravind Kumar in the CME on Cancer Update 2009 at Anupuram, Chennai on 19th April 2009.

PUBLICATIONS

1. Gunaseelan, Reddy K. S., Pooja Sethi, Parthasarthy V. Predictive value of CYP2D6 genotypes on tamoxifen treated breast cancer patients. Biomedicine; 2009: 29 (1), 15 – 18.
2. Gunaseelan K, Pooja S, Reddy K S, Vivekanandam S. Hemophilia of Orbit. Oman Journal of Opthalmology 2009;2:86-88.
3. Pooja S, Gunaseelan K, Reddy K S, Vivekanandam S, Bhavana A Bhade, Parthasarthy V, Signet Ring Cell Carcinoma; A rare subtype of mammary carcinoma Biomedicine 2009; 29 (2): 189-191.
4. Rahat Hadi, Milind Kumar et al. Glassy cell carcinoma (GCC) of uterine cervix. A case report. Journal of AROI TN- PY chapter. Issue 2. April- June 2009.
5. Gunaseelan K, Pooja S, Reddy K S, Debadatta B, Vivekanandam S, Parthasarthy V. Angiocentric T cell nasal lymphoma – a case report and review of literature. Journal of AROI TN- PY chapter. Issue 2. April- June 2009.

CONFERENCE PRESENTATIONS

1. Dr. Gunaseelan. K: Oral Paper Presentation: *Topic* – Role of Breast Conservation in Locally Advanced Breast Cancer: JIPMER Experience.
2. Dr. Pooja Sethi: Oral Paper Presentation: *Topic* – Signet Ring Cell Carcinoma – A Rare Subtype of Mammary Carcinoma.
3. Dr. Sanjay Kumar Mishra: Oral Paper Presentation: *Topic* – Contralateral Breast Cancer After A Long Follow Up of 21 Years.

Upcoming Events:

- CME on Gynaecological cancers

Cancer Statistics 2008 (Department of Radiotherapy)

Malignancy	Male	Female	Total	%
Head an Neck	505	238	743	33.44
Gynecologic	-	816	816	36.72
Breast	-	219	219	9.86
GIT	94	48	142	6.39
Thorax	37	15	52	2.34
Hematology	13	9	22	0.99
Urology	38	5	43	1.94
CNS	30	17	47	2.12
Thyroid	9	6	15	0.68
Unknown Primary	31	35	66	2.97
Miscellaneous	40	17	57	2.57
Total	797	1425	2222	100

What Cancer Cannot Do

Cancer is so limited

It can not cripple love
It can not shatter hope
It can not corrode faith
It can not destroy peace
It can not kill friendship
It can not suppress memories
It can not silence courage
It can not invade soul
It can not steal eternal life
It can not conquer the spirit

-Source Unknown

That's not quite the stool sample we had in mind