

COLORECTAL CANCER - AN EVOLVING SUCCESS STORY

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As we focus this month on colorectal cancer, we can celebrate the many accomplishments that have been made during the last several decades in the screening, diagnosis, treatment and prevention of this malignancy. These accomplishments have been possible due to the dedication of scientists, physicians and other members of the healthcare team and the increasing public awareness and support.

As a common malignancy that afflicts both men and women, it is estimated that there will be over 140,000 new cases and 51,000 deaths attributed to colorectal cancer in the U.S. in 2012. In Nebraska, the estimated figures are 910 and 360 respectively. There are now improved diagnostic tools and more effective screening methods, which aid early detection. Stool blood testing, colonoscopies and endoscopic management of colorectal polyps are now done routinely. Colorectal cancer when diagnosed early is associated with high cure rates. Due to the adoption of screening and early diagnosis as part of health maintenance and preventive care practices, there is now a broader participation by the public. This is expected to have a continued impact on the survival outcomes from colorectal cancer in our communities.

There have been significant advances in the surgical techniques. Less invasive procedures such as laparoscopic hand-assisted resections are done increasingly, thereby reducing post-operative morbidity and shortening the length of hospital stay. For highly selected patients with very early rectal tumors, more acceptable surgical procedures, including limited resections are now being performed. Procedures such as placement of rectal stents for obstructed rectal tumors have provided valuable palliative benefit and improved quality of life for patients who are not candidates for surgery. Resection of limited metastatic lesions, especially in the liver, combined with additional treatments including chemotherapy provides improved tumor control, prolonged survival and even cure.

After surgical resections, patients who are at high risk for recurrence, now receive preventive chemotherapy as the standard of care. This has contributed to further increase in cure rates. Over the last three decades progressive and incremental advances in the preventive chemotherapy programs have been accomplished. The validity of such new treatment regimens needs to be tested and substantiated through well-controlled clinical trials. More effective chemotherapy agents and improved supportive care to prevent or minimize treatment related side effects have made these treatments increasingly well tolerated. Most colorectal cancer patients can now have better quality of life and many are able to continue their

employment with only limited disruption of their daily routines, while undergoing chemotherapy. Furthermore, current preventive chemotherapy protocols are of much shorter duration of six months, compared to the one year of treatment, several years ago. . We are currently participating in a national clinical trial to explore, if preventive chemotherapy can be shortened to three months in selected patients, instead of the current standard of six months. In some patients with resected colorectal cancer, the tumor can be tested for gene profiling so that a more objective prognostic assessment can be made. This allows the patient, with the oncologist's assistance, to make a more scientifically valid decision as to whether chemotherapy can be safely avoided.

Radiation therapy techniques are now more refined with more sophisticated technology to deliver radiation with enhanced accuracy, efficacy and reduced side effects. The increasing use of ultrasound-based assessment of rectal tumors facilitates appropriate patient selection for radiation. In locally advanced rectal cancers, radiation and chemotherapy are given concurrently and prior to subsequent surgical resection. This approach has improved the prognosis and is the present standard of care.

Even in advanced stages of colorectal cancer, more effective chemotherapy agents and regimens are now available. For several decades, there was only a single effective chemotherapy drug for colorectal cancer, which was 5-Fluorouracil. However, now several additional drugs are in clinical use. We are now in the dawn of a promising new era of targeted therapy of colon cancer. These novel therapeutic agents are based on the understanding of the molecular biology of cancer, cell surface receptors and targeting of key intracellular signaling pathways. They allow the oncologists to tailor cancer therapy based on the characteristics of a specific patient's tumor so that a more personalized treatment can be given.

In patients with metastatic disease especially to the liver, multi-modality approaches have resulted in encouraging outcomes. Effective chemotherapy, resection of the tumors, radio frequency ablation and other interventional procedures are now increasingly utilized. These combined modality treatments have made possible for life expectancies of five years and more and possibly even cure in selected subgroups of patients with hepatic metastases.

Increasing understanding of colorectal cancer genetics led by the seminal works of Dr. Henry Lynch and others have made possible genetic counseling, early diagnosis and prevention of colon cancer in affected families. Patients and family members with hereditary colon polyps and other genetic disorders with predisposition to colorectal cancer are now being monitored on surveillance protocols and managed with preventive surgical procedures preemptively.

These accomplishments have been possible and the resultant increasingly optimistic prognosis has been due to the commitment, dedication and arduous work of all who have involved in the research and treatment of this malignancy. Our scientist

colleagues in the local and national research laboratories have uncovered the biological “secrets” of causation, spread and progression of cancer and helped develop novel therapeutic “tricks” to destroy malignant cells. These discoveries need to be translated into treatment strategies that can be applied at the patients’ bedside to accomplish control of the cancer and eventual cure.

This process requires the engagement of the entire health care team and their commitment and collaboration to conduct clinical trials, with the highest standards of research quality and integrity. These clinical trials are vital to generate scientifically valid, credible and effective treatment programs for our patients. Strong commitment to our professional and societal obligation to advance the treatment of colorectal cancer, with the goal of prevention and cure through clinical research, is a responsibility shared by every member of the healthcare team. It is critically important that our patients, their families and our communities also share this responsibility, as stakeholders and joint collaborators in this venture. Nationally, only 2 to 3 percent of cancer patients participate in clinical trials. It is not hard to imagine how much more new treatment strategies can be developed and better prognosis can be accomplished, if more of our patients voluntarily participate in clinical trials.

Our area medical centers and healthcare providers have a proud tradition of active participation in research and making contributions to the advancement of prevention and treatment of colorectal cancer. Most advanced colorectal cancer care is available and accessible to everyone in our communities. As one of the forty-nine national Community Clinical Oncology Programs, Missouri Valley Cancer Consortium (MVCC) in Omaha, is supported by an annual grant from the National Cancer Institute. Since its inception in 1983, it has made available a large repertoire of national cancer clinical trials and over 6000 of our patients have benefited through participation. MVCC has offered 48 different NCI sponsored clinical trials for colorectal cancer patients in the Omaha, Lincoln, Fremont, Council Bluffs and other communities since 1994. Approximately 325 patients have participated in these treatment trials. Additionally, patients have participated in 17 different cancer control studies aimed at improving the quality of life for colorectal cancer patients. Our participating patients and oncologists have contributed to step-wise advancement of the treatment of this malignancy. They can be truly proud of their efforts, as tens of thousands of patients have benefited from these treatment advances nationally and throughout the world. MVCC currently has 5 active clinical trials for various stages of colon cancer, open for enrollment. Through our expanded affiliations with the large national cooperative groups we plan to further expand the menu of latest treatment options.

As these clinical trials are available through the patients' own physicians, our patients can receive the most up to date treatments available, closer to their homes. Your physicians and members of your healthcare team need the support, resources and most importantly, active participation in clinical trials by patients, to advance the cure and prevention of colorectal cancer. Together, we can look forward optimistically and with hope, for continued advances in the prevention and cure of this malignancy.