SOMC Cancer Services
2008 Annual Report

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Special Report on Colon Cancer

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Colon cancer is the third most commonly diagnosed cancer in both men and women in the United States. The American Cancer Society estimates that in 2008 about 148,810 people will be diagnosed with colorectal cancer and that about 49,960 people will die of the disease. The great majority of these cancers and deaths could be prevented by applying existing knowledge about cancer prevention and by increasing the use of established screening tests.

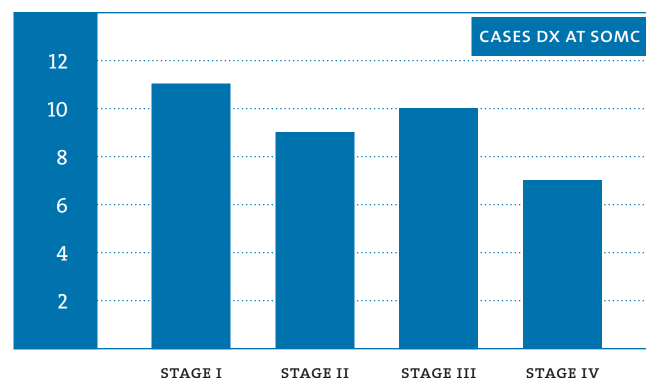
The risk of colon cancer is increased with a known family history of the disease, presence of premalignant polyps in the colon, increased intake of saturated fatty acids, animal proteins, obesity, smoking, and presence of inflammatory disorders such as Crohn's disease. The risk of colon cancer may be decreased by estrogen replacement therapy, ingestion of non-steroidal anti-inflammatory drugs such as aspirin, ingestion of calcium, and a diet rich in fruits and vegetables.

Colon cancer is treated based on the stage of disease. Stage I refers to cancer that is confined to the innermost lining of the colon, the mucosa, but does not penetrate the muscular layer of the colon. This is treated with surgery alone. Stage II refers to disease that penetrates beyond the mucosal lining of the colon wall without involvement of lymph nodes. It is routinely treated by surgery alone. There is increasing recognition that certain high risk patients with Stage II disease may require adjuvant chemotherapy to prevent recurrence and improve survival. Patients with high risk Stage II disease that may benefit from adjuvant therapy are those with a tumor that has invaded adjacent organs (T4 tumor), a tumor that has obstructed the bowel or ruptured the bowel wall, a tumor that has invaded lymph, blood vessels or nerves, tumor cells that are poorly differentiated, and patients with fewer than 12 lymph nodes removed during surgery.

Stage III refers to disease that involves regional lymph nodes in the absences of extra colonic organ involvement. Treatment for stage III involves surgical resection with adjuvant chemotherapy. The use of adjuvant chemotherapy has shown an improvement in the disease-free survival and overall survival compared to surgery alone. Stage IV refers to presence of disease outside the colon in organs such as the lungs, bones, or brain at the time of diagnosis. Palliative chemotherapy is the standard of care in Stage IV patients.

In certain cases where metastatic disease is limited to one organ and can be resected, surgical resection has been shown to improve overall survival compared to palliative chemotherapy alone. Addition of targeted therapy agents Bevacizumab and Cetuximab to conventional chemotherapy has demonstrated improved disease free and overall survival compared to chemotherapy alone. Below is the colon cancers diagnosed at SOMC in 2008 broken into the four stage categories.

fig. 1 2008 SOMC Colon Cancer Stage Distribution

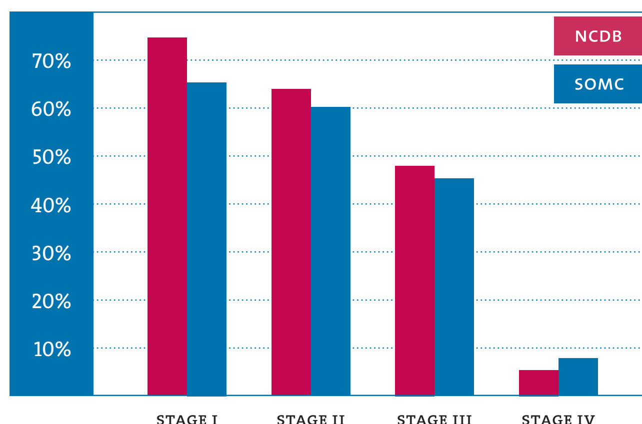


Special Report on Colon Cancer Continued

With the improvement in therapeutic options and survival benefits associated with these interventions, increased emphasis has been placed on interventions, such as annual fecal occult blood tests and screening colonoscopies (every 5-10 years in people aged 50 and older). The ultimate goal would be to diagnose more of the colon cancers in the earlier stages where the chance of cure is more likely.

From 1998 to 2000 135 patients were diagnosed with colon cancer at Southern Ohio Medical Center: 34 were Stage I, 33 Stage II, 31 Stage III, and 37 Stage IV. The graph below demonstrates that the overall survival for Stage IV patients diagnosed at SOMC was better than observed by the National Cancer Database (NCDB). The survival for early stage, I-III, was lower than that observed by the NCDB. We have identified possible reasons for this phenomenon.

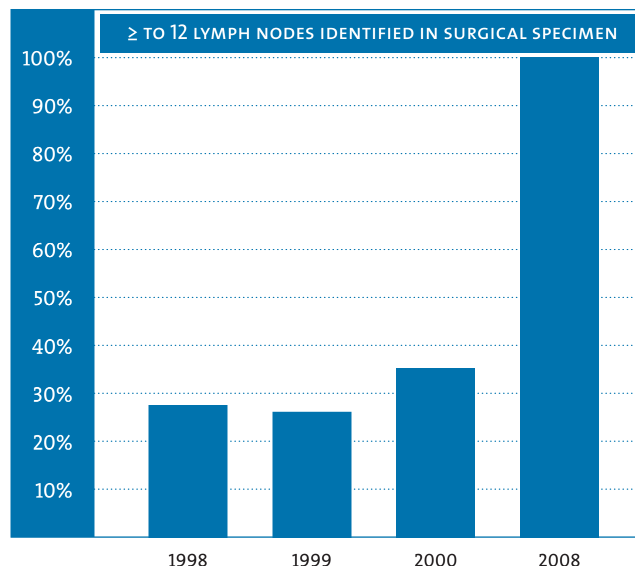
fig. 2 1998–2000 Colon Cancer 5 Year Survival by Stage



SOMC Cases: 34 Stage I, 43 Stage II, 31 Stage III, 37 Stage IV
NCDB = National Cancer Database

Recent studies have shown that identifying 12 or greater lymph nodes for Stage I and II disease significantly improves survival. This probably does so by providing more accurate staging data and identifying patients with stage III disease who would have been classified previously as Stage I or II. These patients would therefore not have been offered life-saving adjuvant chemotherapy. We identified less than 35% of patients diagnosed with Stage I and II colon cancer during 1998-2000 had twelve or greater lymph nodes identified at resection.

fig. 3 Adequate Lymph Node Dissection



In January 2007, the SOMC cancer committee included a quality improvement measure to start collecting and monitoring the performance of adequate lymph node removal. Since that time, the data has improved to a 100% performance. SOMC also has begun prospective discussion of colon cancer cases in a multi-disciplinary tumor board. This is important because each specialist has the opportunity to make treatment recommendations and the group has also adopted NCCN (National Comprehensive Cancer Network) guidelines to assist in the management of these patients. High risk Stage II patients can then be offered referral to a clinical trial or provided access to adjuvant chemotherapy at SOMC off trial.

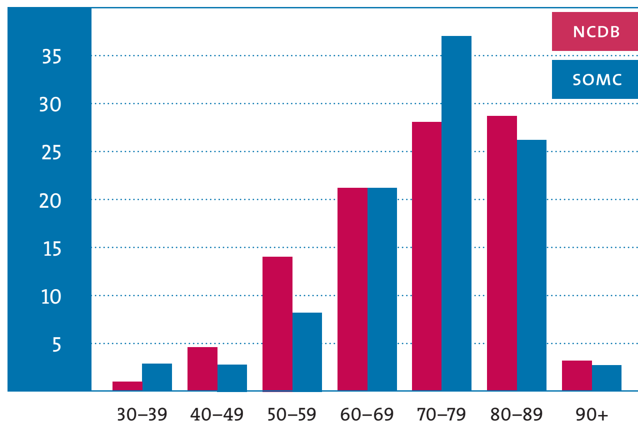
The median age of patients when diagnosed at SOMC was significantly older than is reported by the NCDB. This may also contribute to the survival differences observed because with older patients it is more likely that there may be an increased presence of co-morbidities which could have prevented patients diagnosed with Stage II or III disease from receiving adjuvant chemotherapy.

In the ideal case, all of Stage III patients would need to receive chemotherapy to increase the chance of cure. But in fact, only 16% of patients diagnosed with stage III colon cancer diagnosed in 1998-2000 received adjuvant chemotherapy. In 2008, 35% of them received the recommended chemotherapy.

Special Report on Colon Cancer Continued

Still, co-morbidities and other factors must have influenced these treatment decisions. We would expect that the addition of this adjuvant therapy would have made a significant survival difference.

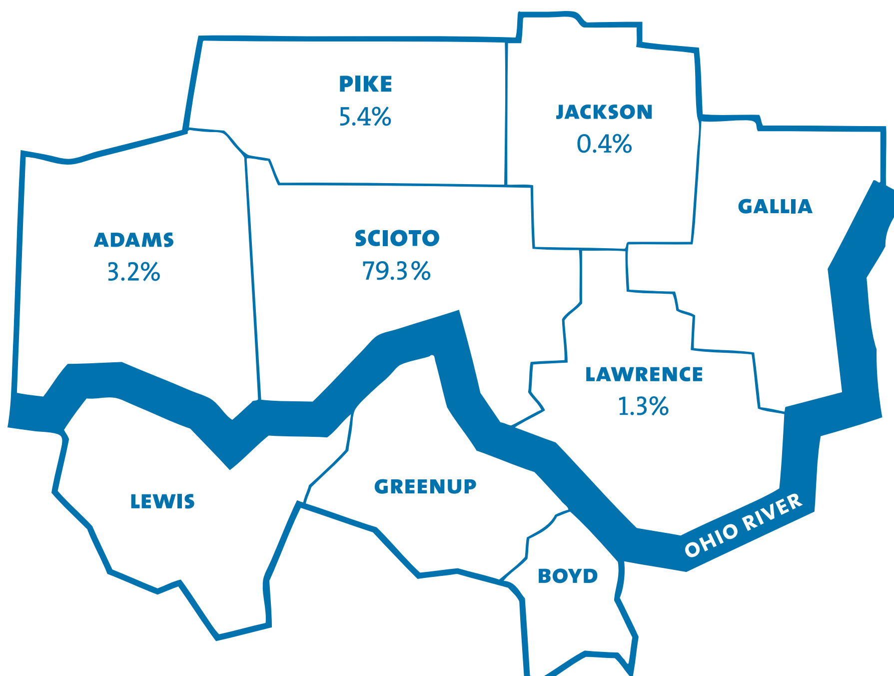
fig. 4 Colon Cancer Age at Diagnosis, NCDB vs. SOMC



The multi-disciplinary tumor board also ensures that patients irrespective of age are adequately informed of the benefits of adjuvant therapy with respect to their performance status and co-morbidities. Patients also have access to newer FDA approved targeted therapies in addition to conventional therapies at the SOMC Cancer Center for advanced disease.

SOMC has also signaled a greater emphasis on colon cancer screening procedures as well as risk reduction of colon cancer by direct physician education and expansion of community directed education efforts. The addition of colon cancer quality indicators to the Cancer Services Dashboard, the routine discussions at multi-disciplinary cancer conferences, and the adoption of NCCN guidelines are just a few of the steps that we have undertaken to combat this disease. We are confident that these interventions will result in marked improvement in patient outcomes.

2008 Patient Demographics



Other Ohio counties: 2.6%
Kentucky counties: 7.8%

2008 Cancer Statistics

MEN	ACS %	SOMC % 2008	SOMC 2008 CASES	SOMC 2007 CASES	SOMC 2006 CASES
Lung & Bronchus	15%	28%	60	67	56
Prostate	25%	26%	55	34	46
Colon & Rectum	10%	12%	26	25	25
Melanoma	5%	4%	9	14	17
Non-Hodgkins Lymphoma	5%	4%	8	5	20
Esophagus	2%	3%	6	5	8
Urinary Bladder	7%	3%	6	23	16
Leukemia	3%	3%	6	8	7
Oral Cavity & Pharynx	3%	3%	6	7	5
Pancreas	3%	1%	3	5	9
Kidney/ Renal Pelvis	4%	1%	3	1	5

WOMEN	ACS %	SOMC % 2008	SOMC 2008 CASES	SOMC 2007 CASES	SOMC 2006 CASES
Breast	26%	29%	67	67	79
Lung & Bronchus	14%	17%	40	49	49
Colon & Rectum	10%	11%	25	28	29
Uterine Corpus	6%	7%	16	15	12
Leukemia	3%	3%	8	3	5
Melanoma	4%	3%	7	3	6
Ovary	3%	3%	6	5	5
Cervix	2%	3%	6	7	6
Non-Hodgkins Lymphoma	5%	2%	5	5	10
Thyroid	4%	1%	3	3	4
Kidney/ Renal Pelvis	3%	1%	3	1	2

The most alarming difference in the cancer case percentages is evident in our lung cancer diagnosis rate. In the nation, lung cancer comprises approximately 15% of all cancer cases combined. Here at SOMC, 23% of the cancer cases diagnosed are lung cancer. The American Cancer Society warns that lung cancer is caused by modifiable risk factors such as:

Smoking: Cigarette, pipe, cigar, and hookah (water pipe) smoking all cause cancer. Risk increases with the amount and duration of use.

Secondhand smoke: Exposure to secondhand (environmental) tobacco smoke increases risk. A nonsmoker living with a smoker has about a 20%-30% greater risk.

Occupational or environmental exposure: Exposure to substances such as radon; asbestos; arsenic; air pollution; radioactive ores (e.g., uranium); silica; beryllium; cadmium; vinyl chloride; nickel and chromium compounds; coal products; mustard gas; chloromethyl ethers; and diesel exhaust increases risk.

Diet: Inadequate consumption of fruits and vegetables may increase risk in persons exposed to tobacco smoke.

Because SOMC recognizes the need to detect these lung cancers earlier and to educate our community regarding the risks associated with exposure, we have recently begun a screening and educational program called Lungs for Life. Please contact the Lung Health Navigator at 740-356-7555 for more information.

Community Outreach

SOMC Cancer Services in partnership with several agencies provided a wealth of cancer education, prevention and support throughout 2008.

One area that we are especially proud of is our annual cancer screenings. The screenings are a collaborative effort of the hard work and dedication of Fight Cancer, Save Lives...Act Now Coalition, SOMC staff, volunteers and physicians.

Fight Cancer, Save Lives...Act Now Coalition is associated with the Appalachian Community Cancer Network (ACCN) which is a part of the National Cancer Institute (NCI). The coalition membership is comprised of representatives from multiple community institutions/agencies, SOMC employees, and volunteers.

The coalition's mission is to help residents become more aware of when and where to seek early detection for cancer, how to proceed when cancer is diagnosed, how to navigate through a complex health system, and where to turn for community resources and support for survivors. The success of this group and their partnership with SOMC in 2008 provided:

117 patients screened for skin cancer
150 men screened for prostate cancer
35 women screened for breast cancer

Breast Health Navigation

Our Breast Health Navigator Nurse, Kim Richendollar, RN, BSN, has been instrumental in educating and navigating the path for women in the detection-to-diagnosis phase of breast health. Speaking to early detection, screening guidelines, and treatment concerns, Kim is an advocate for the needs of the women in our community.

Susan B. Komen Grant Funded breast services: Grant Period April 2008 through March 2009

114 Mammograms
35 Ultrasounds
3 MRIs
6 Breast Biopsies
3 Genetic Tests for BRCA 1/2 mutations
13 Surgical Consults

National Cancer Survivors Day

Each year the SOMC Cancer Center welcomes current and former cancer patients and their loved ones for an afternoon of fun, refreshments and fellowship in conjunction with National Cancer Survivors Day.

The local event's theme in 2009 was "A Seaside Celebration." Local entertainment was provided by Life Ambulance, Jessica Scott, and Bobby Blanton. The event requires a lot of planning and coordination of staff to make for an extra special day of celebration for the patients and their families. This year we had over 400 present for the event! Congratulations, SOMC Cancer Center SURVIVORS!

Not only does the SOMC Cancer Center staff participate in several community events, our staff also volunteer their efforts at other cancer awareness activities such as the Susan B. Komen Race for the Cure and Relay for Life. Thanks to these teams for representing SOMC and for making a difference in our community.

Lung Health Navigation

Because lung cancer is the most commonly diagnosed cancer and the number one cause of cancer mortality at Southern Ohio Medical Center, our organization has worked hard in 2008 to bring to the community a brand new program called Lungs for Life. This program, funded by the SOMC Foundation Board, allows patients that meet certain eligibility to receive a low-dose screening CT scan and information regarding smoking cessation classes and resources available through the American Cancer Society and SOMC.

Please call Kim Richendollar RN, BSN, Lung Health Navigator at (740) 356-7555 for more information.

A special thanks goes out those who made our 2008 screenings possible:

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