CD Summary

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CENTER FOR DISEASE PREVENTION & EPIDEMIOLOGY • OREGON HEALTH DIVISION

COLORECTAL CANCER

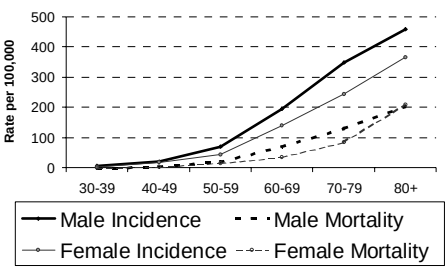
Colorectal cancer is the second leading cause of cancer-related death in Oregon. Only lung cancer causes more deaths. While it is clear that regular screening reduces morbidity and mortality from colorectal cancer, fewer than half of Oregon adults >50 years have ever been screened for this disease. In this *CD Summary*, we present data on the epidemiology of colorectal cancer and screening rates in Oregon, and probe the various screening recommendations and dilemmas.

COLORECTAL CANCER BURDEN

The total number of colorectal cancer (CRC) cases diagnosed in Oregon has steadily risen since 1996, the first year that the Oregon State Cancer Registry (OSCaR) began collecting such data. The 1,789 cases diagnosed during 1998 represents a 12% increase over the 1,596 cases diagnosed in 1997 and a 13% increase over the 1,578 cases diagnosed in 1996. The crude rate of invasive colorectal cancer was 51.4 cases per 100,000. After adjusting for age, Oregon's rate of 39.7 cases per 100,000 is 10% lower than the U.S. rate of 44.3. Men are more likely to develop colorectal cancer than women—53.5/100,000 population vs. 49.3. The age-adjusted rate for men (46.7) was even higher than for women (33.5).

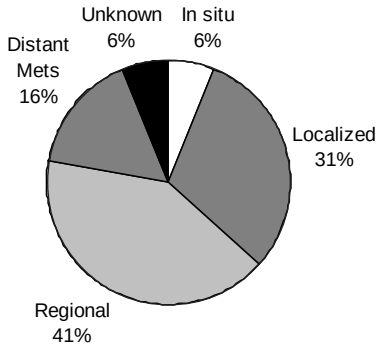
As with most cancers, the risk of developing colorectal cancer increases with age. The median age of diagnosis was 73 years; and 81% of cases were diagnosed in those ⩾60 years.

Age-specific rates of colorectal cancer, Oregon 1996-1998



In 1998, 666 Oregonians died from colorectal cancer. Although the incidence of colorectal cancer has increased in Oregon over the past 3 years, the mortality has remained flat. Likely explanations include: that the cancers are being diagnosed earlier; people are living longer with their cancer because it was diagnosed at an earlier stage; and/or that efficacy of treatment is improving.

Stage of diagnosis of colorectal cancer, Oregon 1998



STAGE AT DIAGNOSIS

Colon cancer is a disease in which the prognosis is heavily dependent on the stage at diagnosis. In 1998, 37% of cases were detected at the in-situ or localized stage, which is an improvement from 1997 when 31% and 1996 when 33% of cases were detected at these stages. More than half (57%) of cases were diagnosed with regional spread or distant metastases.

Stage at diagnosis varies by sex and geographic region in the state. Men were 9% more likely to have their cancer diagnosed at the in-situ or localized stage than were women. In 1996, those living in the Portland metropolitan area (Clackamas, Washington, and Multnomah counties) were 26% more likely to have their cancer diagnosed at an earlier stage than those living elsewhere in Oregon. However, this regional gap is narrowing, and the stage of diagnosis is now almost equal between the metro and non-metro regions.

RISK FACTORS AND PREVENTION

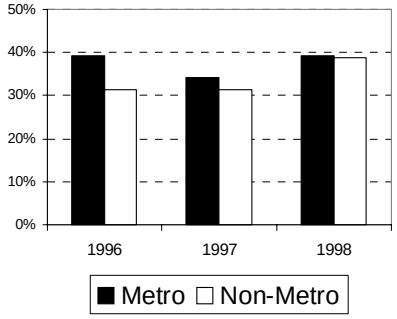
Several factors may influence the risk of developing colorectal cancer. While less than 5% of colon cancers are clearly genetically related, family history of colon cancer in a first-degree relative increases the risk from 1.4 to 4 times, particularly for individuals 40–60 years.

Hormone replacement therapy (HRT) with estrogen in postmenopausal women may reduce the risk of developing colorectal cancer by about 20–45%, an often under-appreciated benefit of HRT.[1] Daily aspirin or NSAID use also appears to be protective in doses ⩾150 mg/day, perhaps reducing the risk of colorectal cancer by 30% or more.[1]

High-fiber, low-fat diets historically thought to be protective against developing colon cancer, have recently come into question. Other supplements, including calcium, have been shown to have a modest effect (relative risk 0.85) in reducing new adenomas that are a risk factor for developing invasive disease.[1]

Smoking has also been linked to cancers of the gastrointestinal tract. The relationship between tobacco use and these cancers becomes weaker with progression from the esophagus to the rectum. Several studies have suggested that smoking may be related to adenocarcinoma of the bowel after a long latent period, and other studies have shown a link between smoking and large bowel polyps; yet another reason to advise your

Early stage colorectal cancers, Oregon metro vs. non-metro by year



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SCREENING TECHNOLOGIES

Screening methods for colorectal cancer include fecal occult blood testing (FOBT), flexible sigmoidoscopy, and colonoscopy. In FOBT, the stool is checked for blood, which may or may not represent a malignancy. Since only a fraction of cancers bleed, and since the test itself has variation in how it is collected and performed, it misses many colon cancers. Non-cancerous conditions, including stomach inflammation and hemorrhoids, and certain foods can cause false positive results. However, this test is relatively inexpensive, well tolerated, and can be performed with a minimum of technology.

Screening by flexible sigmoidoscopy involves a flexible scope that is passed up through the rectum and visualizes approximately 60 centimeters (about 35 inches) of the colon. 20–32% of colon cancers will be missed by using sigmoidoscopy alone (with colonoscopy to follow if any polyps are found). However, since this is an office procedure able to be performed inexpensively (about $300) by many primary care physicians, this test is broadly accepted.

Finally, screening by colonoscopy uses a flexible scope that is usually able to visualize the entire colon. The procedure must be performed by a specialist and conscious sedation is used (rather than general anesthesia), to minimize discomfort to the patient. This test is more expensive (about $1,000), and since a gastroenterologist must perform it, is not readily available in some areas. It is, however, the most definitive screening method, with a sensitivity of 95%.

With sigmoidoscopy and colonoscopy, colon polyps, considered premalignant or early malignant lesions, can be biopsied and removed. This reduces the risk for developing subsequent invasive colon cancer.

SCREENING RATES IN OREGON

In 1999, 47% of Oregonians ⩾50 years said that they had undergone sigmoidoscopy or colonoscopy, which represents a slight increase (2%) from 1997.* In 1997, men had a higher screening rate (48%) than women (44%), although the gap narrowed in 1999 (48% of men had been screened compared to 47% of women). In 1997, people living in the Portland metropolitan area had a higher screening rate (49%) than people outside Portland (43%), although this gap had also narrowed in 1999 (50% of people in the metro area had been screened compared to 45% of those outside the metro area). These differences in screening rates among men and women, and metro versus non-metro are consistent with the patterns seen in stage at diagnosis.

SCREENING RECOMMENDATIONS

Current recommendations regarding colorectal cancer screening are in transition. The U.S. Preventive Task Force (USPTF) recommends annual FOBT beginning at age 50 and an ill-defined "periodic" flexible sigmoidoscopy. Other groups, including the American Cancer Society, recommend FOBT annually beginning at age 50 and flexible sigmoidoscopy every 3-5 years. However, recent studies[2-5] support changing these recommendations. Proposed screening strategies for average risk patients include full colonoscopy every 10 years beginning at age 50, or FOBT plus sigmoidoscopy followed by colonoscopy if any polyp is found beginning at age 50. These strategies were found to be cost-effective in reducing the burden of CRC, with an estimated reduction of up to 60% in colon cancer incidence and 80% in mortality.

New guidelines that incorporate these findings are being developed at the national level. Locally, OHSU is in the process of developing consensus guidelines for Oregon, with input from physicians and insurers. (Contact Dr. Don Austin at 503/494-2564 for more information.) The absence of consensus should not deter physicians from aggressively screening their patients for colorectal cancer. The choice of screening method will likely be influenced by physician preference, patient compliance, as well as health insurance coverage.[6]

* Data from the Behavior Risk Factor Surveillance System

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