

Colorectal cancer: Calcium a key?

The prevention of colorectal cancer may rely on a twist on one of its possible causes — diet.

The cancer, which caused 60,000 U.S. deaths in 1985, has been linked to a high-fat diet. Now an analysis of people with early signs of colorectal cancer shows that calcium supplementation can return rapidly proliferating cells to normal within two or three months.

But the researchers who did the study, Martin Lipkin and Harold Newmark of Memorial Sloan-Kettering Cancer Center in New York City, caution that the work needs further verification before people start taking calcium *en masse*.

Lipkin and Newmark studied colon cells removed by biopsy from 10 people at high risk of colorectal cancer because of a positive family history. They found that the cells were dividing more rapidly than normal.

But within two to three months of starting calcium supplementation, new biopsies showed the cells looking more like cells from people at low risk of developing colorectal cancer. "The change is in the direction of healthy cells," says Newmark.

The current study shows that calcium supplementation — in this case, 1.25 grams a day, about 1.5 times the recommended daily allowance — can actually reverse an abnormal proliferative state, the researchers report in the Nov. 28 NEW ENGLAND JOURNAL OF MEDICINE.

The calcium connection has long been suspected. Colorectal cancer incidence is higher than normal among people drinking soft water, which is low in calcium (SN: 9/21/85, p. 187), and people eating diets high in calcium and vitamin D have a lower-than-normal incidence of the cancer (SN: 3/2/85, p. 141).

Previous work in animal systems showed that calcium binds fatty acids and bile acids, which are thought to induce cell proliferation. It may also inhibit cell proliferation directly, Newmark says.

While calcium in this dose range is not thought to have any ill effects, and is thought to limit hypertension and osteoporosis, larger studies are needed to see if the results hold and if there are any unexpected drawbacks to calcium supplementation, Newmark says.

Comments Cedric Garland of the University of California at San Diego, who has shown an epidemiologic link between colorectal cancer and low calcium intake, "It's a lot closer [to being proven], but it's still something we have to pursue a little more before we're positive. I think it shows we're absolutely on the right track."

— J. Silberner

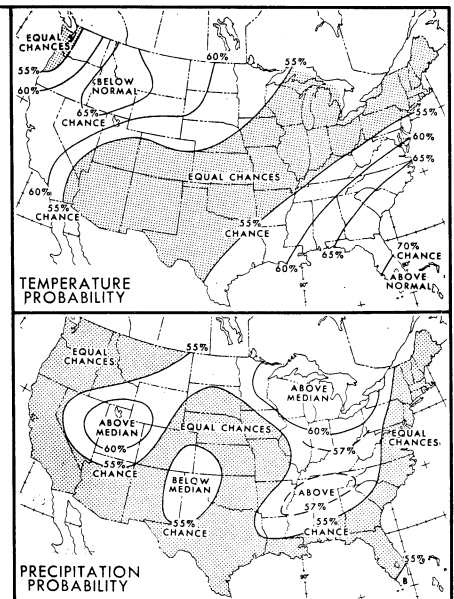
Whither the weather?

"There is really no such thing as bad weather, only different kinds of good weather," 19th-century writer John Ruskin once said. The following regions can expect the following kinds of good weather this winter, according to National Weather Service predictions:

- Idaho and the Montana Rockies have a 65 percent chance of colder-than-usual weather; the western Dakotas to Idaho down through northern and central California have a 60 percent chance; and Minnesota, the northern Great Plains and Rockies, the Great Basin, interior Northwest and part of southern California have a 55 percent chance.

- John Keats, who desired "books, fruit, French wine and fine weather," might have wanted to take his possessions this winter to southern Florida, which stands a 70 percent chance of a milder-than-normal winter. The rest of Florida to the eastern Carolinas have a 65 percent chance of milder-than-usual temperatures; north and west to the Mississippi Delta and Chesapeake Bay have a 60 percent chance; and from Texas to New Jersey there is a 55 percent chance.

- New England weather, which Mark Twain said is "always getting up new designs and trying them on people to see how they will go," is not likely to disappoint. Though the official map states



National Weather Service

New England and the Midwest for a near-normal winter, both regions have the potential for sharp variations.

- The Bible's "sound of abundance of rain" may be heard in Utah and the Great Lakes region, which have a 60 percent chance of extra precipitation. The Great Basin and the Mississippi, Missouri and Ohio valleys are rated at 55 percent. The area where Texas, Oklahoma, Kansas, Colorado and New Mexico come together has a 55 percent chance of less rain.

— J. Silberner

Pass the shellfish, please

'Tis the season for turkey and overstuffing, but a group of researchers at the University of Rhode Island in Kingston is more interested in shellfish consumption. According to chemistry professor Yuzuru Shimizu, scientists there are studying the types of food poisoning associated with shellfish.

Most feared is the neurological type, the sometimes fatal paralytic shellfish poisoning (PSP). This is commonly attributed to eating shellfish that fed during "red tide," when seawater is loaded with reddish, toxin-producing plankton called dinoflagellates. The Rhode Island team says it has successfully determined the unusual chemical structure of the PSP toxin, one that implies a "missing link" in the disease's epidemiology, according to Shimizu. "These compounds are very peculiar . . . and are produced in [plankton species] that are not related," he says, speculating that symbiotic microorganisms or genetic factors in the plankton might be the source of toxin production.

The researchers also have evidence that many U.S. cases of severe stomach problems from eating shellfish are caused by a newly described toxin called diarrhetic shellfish poison (DSP), rather than by bacteria and viruses as pre-

viously thought. The problem appears to be worldwide, and Shimizu's group is trying to identify which plankton species produce DSP. But a report from Shimizu in the November MARITIMES says research efforts are hampered by difficulties in detecting the toxin and culturing plankton in the laboratory. □

Lung cancer: Some decrease

The National Cancer Institute (NCI) in Bethesda, Md., announced good news this week for U.S. white men: Their lung cancer incidence is beginning to drop, following a two-decade decline in smoking. "This proves that people can successfully reduce their cancer risk by quitting smoking or not taking up smoking," says NCI Director Vincent T. DeVita Jr. But the news is not so good for women and black men. In women the incidence of lung cancer, one of the most lethal forms of cancer, is continuing to rise and is expected this year to push lung cancer over breast cancer as U.S. women's leading cause of cancer death. The increased incidence is linked to more women smoking. In black men the incidence appears to be leveling off but is still 60 percent higher than in white men. □