Colorectal Cancer: Screening Saves Lives

by Dr. Raymond DuBois

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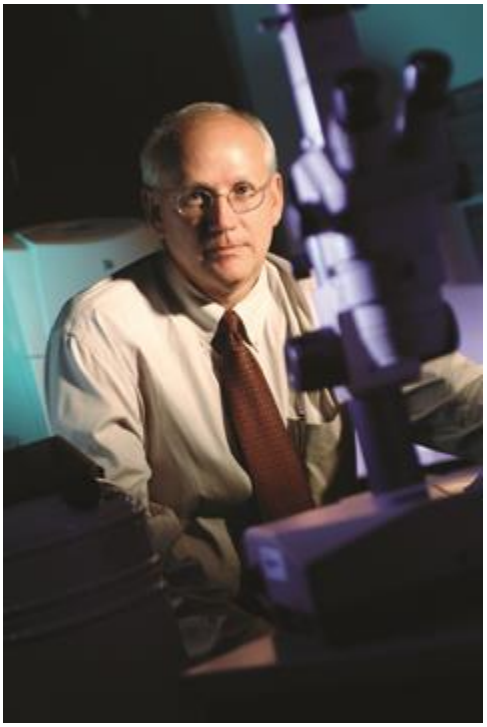

Throughout my career as a cancer researcher and physician, I have met many patients who inspired me in their fight against cancer. One young father in particular showed me both how devastating this disease can be and how prevention can mark the difference between life or death. Although he had earlier undergone surgery for advanced colorectal cancer, when I saw him, he'd had a recurrence. He wasn't doing well on chemotherapy, which was buying him time as the cancer continued to spread to his liver and bones. After a full examination and discussion, he told me that a number of his family members also had been diagnosed with colorectal cancer and that many of his ancestors had died from the disease.

Since he had such a startlingly strong family history and had four young children, we conducted genetic testing on the oldest two sons, both adolescents, who might be genetically predisposed to develop colon cancer as well. Unfortunately, we found one of them had inherited a gene that causes colon cancer and immediately had him undergo a screening exam. The son with the genetic mutation indeed was diagnosed with very early stages of cancer. Needing to stop the disease in its tracks, we sent the boy to surgery and removed the section of affected colon. So far, the young man is doing well and has not developed colon cancer. Sadly, we were unable to save his father.

As a doctor and a researcher, this experience was one among many sobering examples of how preventing a disease is much more effective than trying to treat it in its late stages. Over 140,000 new cases of colorectal cancer will be diagnosed in 2013, claiming over 50,000 lives – lives that are

too valuable to lose in this way. As a researcher, my primary goal is to understand its causes so we can develop better prevention and treatment strategies.

In my professional role as Executive Director of the Biodesign Institute at Arizona State University, I oversee the research, education and fundraising efforts of the Institute to find solutions to some of society's largest challenges, including combating cancer. We currently have over 500 employees at the Institute and bring in over $50 million in outside research funding. Our strategic approach is to carry out "bio-inspired" research based on observations in nature that can be applied for uses in society.

Specifically, my lab is studying the molecular links between cellular inflammation and cancer. We know that the use of anti-inflammatory drugs can reduce the risk and mortality from colorectal cancer by 40 to 50 percent. We are now trying to understand how these drugs work so we can use these principles to develop even more effective and less toxic prevention approaches.

It is painstaking work, filled with challenges great and small. Yet I continue to be inspired by patients and families like those mentioned above, who face cancer and other chronic debilitating diseases with grace, courage and a determination to find answers so others won't have to suffer as they have suffered.

Right now, our biggest challenge within the biomedical research field is to have sustainable research funding. The federal government is funding fewer research projects than they have in the past, and with the economic downturn, the availability of foundation and philanthropic support has waned. Stand Up to Cancer (SU2C) is filling a critical role in trying to close the funding gap. Using a unique funding model, it brings the most effective multidisciplinary teams together to collaborate on more effective ways to understand and treat a variety of different cancers. Cancer, we now know, is actually more than 200 different diseases, which is why it has been such a formidable foe and why it has required so many different research strategies to attack and conquer it.

My role in SU2C has been evolving. When I served as President of the American Association for Cancer Research (2008-09), I was heavily involved in setting up the current structure for the SU2C grant submission and review process and advising the SU2C executive team on how best to move the organization forward to support the best science possible. I then joined the SU2C Scientific Advisory Board and was involved in reviewing and selecting research **Dream Teams** and ultimately in overseeing their scientific progress. More recently, I have joined the executive management team and am working on strategic planning for SU2C and determining ways to improve the impact, innovation and creativity of the organization.

Finding more effective therapies for treating colorectal cancer will take collaboration between researchers, doctors, and patients. Researchers like those in my laboratory are currently studying and designing combination therapies for late-stage disease, which has discouragingly low survival odds. More precise combination therapies must be developed and tested quickly.

In addition, it is vitally important that we generate awareness among patients. Colorectal cancer is a very occult predator and produces no symptoms until it has reached its late stages, when it is far more difficult to treat. Therefore, preventive screening is crucial for getting the upper hand on this disease. If everyone in the country underwent the prescribed screening approaches, we could

reduce the number of colorectal cancer patients by 50 percent in a very short time In fact, the 10-year survival rate in patients with early stage disease is greater than 95 percent. I hope to see more collaborative efforts like that of Katie Couric, the Entertainment Industry Foundation, and the federal Centers for Disease Control, who together created a campaign to inform everyone of the lifesaving importance of colorectal cancer screening. Anyone who is 50 or older should have already undergone a colorectal screening examination. If not, get one immediately. We need your help in the fight.

Raymond DuBois, MD, PhD, is the executive director of the Biodesign Institute at Arizona State University. An internationally renowned expert in the molecular and genetic basis for colorectal cancer, DuBois maintains his own laboratory at Biodesign to examine the molecular mechanisms by which inflammatory mediators affect epithelial biology, the tumor microenvironment, carcinogenesis and development.