Pancreas Cancer on the Rise: Are We Up to the Challenge?

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With single-digit 5-year survival rates, pancreatic cancer remains the deadliest of the major malignancies. Disturbing reports predict that pancreatic cancer will become the number two cause of cancer death in less than a decade (1). With the paper by Ma et al. in this issue of the Journal, we learn intriguing details about the changing incidence of pancreatic cancer (2).

Unfortunately, this report demonstrates a rising incidence of death from pancreatic cancer, although in recent years this trend has been limited to the white population (2). Although the slight decline in death rate in black Americans is encouraging, only modest improvements have been made in therapies over time, so this trend is unlikely to continue. In addition, the data for Asian and Hispanic populations remains unknown. This information will be very important when trying to predict the future impact of this disease in the United States.

In the article by Ma et al., there is a thorough discussion of known risk factors for pancreatic cancer, highlighting opportunities for us to intercede and thus improve outcomes in this disease, although thus far we have not capitalized on these opportunities (2). Efforts to combat tobacco use fall short, and although cigarette use continues to decline in the United States, use of other forms of combustible tobacco is on the rise (3). From 2000 to 2011, cigar consumption increased 233.1%, and pipe tobacco consumption rose 482.1%. The antismoking campaigns have been successful but have never really addressed noncigarette tobacco use in an adequate manner.

The second risk factor discussed is obesity, an epidemic in the United States and around the world. Efforts to combat obesity are dismal failures, with no states achieving the goal of lowering obesity rates by 15% or more as recommended in the Healthy People 2010 report (4). Instead, from 2000 to 2010, the number of states with obesity rates of 30% or greater rose from zero to 12. In addition, it remains unclear whether obesity itself is a risk factor for pancreas cancer or if the causes of obesity, such as poor dietary choices or a sedentary lifestyle, are the main contributing factors for this disease. Meat intake has already been associated with increased pancreatic cancer risk (5). In other cancers, such as colorectal cancer, diet and exercise appear to play substantive roles in recurrence risk after resection of nonmetastatic disease, so the interactions between these habits and pancreas cancer development are worth investigation (6).

Gaining insight into the underlying causes of pancreatic cancer is essential in developing a long-term strategy for addressing the issues raised by Ma et al. So how can we make improvements in this deadly disease? First, government policy should shift focus to encouraging healthy lifestyle choices. Currently, the US Farm Subsidy Program provides roughly $200 billion in farm subsidies, mostly to meat producers, foods used as sweeteners, and ethanol-based crops, but no regular direct payments to fruit or vegetable farmers (8). This conflicts with the government’s healthy eating guidelines (http://myplate.gov) that tout more fruits and vegetables and fewer sugars and meats. This inconsistent messaging is unlikely to effect the change in lifestyle needed to create a healthier United States and reduce the population risk for pancreatic cancer.

Early detection methods may provide a second approach for combating the rising death rates for pancreatic cancer. Only a minority of patients are diagnosed early enough to allow for surgical resection (the only known potentially curative option), and even with the best current standard therapies, fewer than 25% of these patients survive 5 years (9). There are ongoing efforts to develop tests for early detection of pancreatic cancer as well as a series of trials to study screening methods for populations at higher risk for developing pancreatic cancer. These efforts are still early, and, as yet, there remains no standard for screening or early detection.

A healthier populace and earlier detection are important goals, but for those who develop this disease, better therapies are desperately needed and are most likely to make an immediate impact in death rates. Although FOLFIRINOX (folinic acid, 5-fluorouracil, irinotecan, and oxaliplatin) and gemcitabine + nab-paclitaxel have both improved survival for pancreatic cancer patients compared with gemcitabine alone, the median survivals for both are still less than 1 year (10,11).

In 2007, the National Cancer Institute (NCI) sponsored a State of the Science meeting to address the poor success rate for pancreatic cancer clinical trials. The 2-day meeting was summarized in a publication calling for fundamental change in the way we conduct trials, better integration of robust basic science data to guide new trial design, and a need to abandon the mindless propagation of the “gemcitabine vs gemcitabine + your drug here” design used for over a decade (12). With the recent approval of nab-paclitaxel by the Food and Drug Administration, the greatest concern is that the new clinical trials model will become “gemcitabine + nab-paclitaxel vs gemcitabine + nab-paclitaxel + your drug here,” once again forsaking science for regulatory needs. A recent report by the Pancreatic Cancer Action Network analyzed open clinical trials and patient accrual, and their calculations estimate that only 4.6% of newly diagnosed pancreas cancer patients enrolled in clinical trials in 2011 (13). With the number of trial slots available, at the accrual rate of 2011, it would take 6.7 years to complete accrual to all the open trials. Given these findings, we owe it to these patients...
to try to design the best possible trials. This will require scientific
discovery and a better understanding of pancreatic cancer biology
and the targets that might produce the greatest results.

The article by Ma et al. in this issue of the Journal highlights
a looming crisis of rising pancreatic cancer death rates in the
United States (2). To answer this concern, the NCI has priori-
titized pancreatic cancer research. However, the funding avail-
able to the NCI continues to decline in the face of sequestration
and a government focused on partisan bickering and political
showmanship. Our country needs to act now, or we will simply
be spectators as thousands more people die each year from this
devastating illness.

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