MAURIE MARKMAN, MD
Chairman, Department of Hematology/Medical Oncology; director, Cleveland Clinic Cancer Center, associate editor, *Cleveland Clinic Journal of Medicine*

The cruel "cancer cure" hype

ABSTRACT

A premature announcement, printed on the front page of the *New York Times*, that antiangiogenesis agents offer a potential cure for cancer within a few years, raised unrealistic expectations in cancer patients and their families.

THE FIRST-PAGE HEADLINE of the Sunday, May 3 *New York Times* told the story: "A cautious awe greets drugs that eradicate tumors in mice." The article went on to quote Nobel Prize winner James Watson that "Judah (Folkman) is going to cure cancer in 2 years." It also quoted Dr. James Pluda, of the National Cancer Institute, as saying that he and others were "electrified" when they heard a lecture by Dr. Folkman describing the preclinical laboratory results.

What was going on?

The harm from sensational medical reporting is real

ANTIANGIOGENESIS AGENTS CURE CANCER IN MICE

The *Times* article described the results of elegant laboratory studies conducted by Dr. Judah Folkman, an internationally recognized cancer investigator who pioneered efforts to understand the pathogenesis of tumor angiogenesis, and to develop agents to interfere with this process. In particular, the article described work with two agents (angiostatin and endostatin) that prevented tumor growth and eliminated established cancers in mice. The work is an extension of 30 years of highly productive research in Dr. Folkman's laboratory.

The article reported the agents were not toxic when given to mice, and contrasted this with the tremendous toxicity of standard chemotherapy. In addition, the article implied that tumors will likely not develop resistance to the agents, because the agents act on normal blood vessels that feed tumors.

FUNDAMENTAL QUESTIONS ABOUT ANTIANGIOGENESIS REMAIN

Since not a single patient has yet been given either of these agents, we have no answers to a number of vital questions.

- Will these drugs work in humans? The history of experimental oncology is full of agents that cured cancer in mice, but were completely inactive against human tumors.
- How toxic will these agents be in humans? Will they affect vital functions? Will they impair wound healing or the ability to fight infection? Will they affect the growth of small blood vessels in normal organs, leading to acute or chronic organ dysfunction? And what will happen when both drugs are given?

Until trials are conducted, the toxicity of therapy will remain unknown. In fact, it will be necessary to conduct toxicity studies in large animals before humans are treated, due to the potential for serious (including fatal) side effects.

- What will be the optimal dosage? How long should treatment be continued?
- Will human tumors develop resistance to these agents? To suggest that cancers will be unable to develop a resistance to these agents goes against decades of experience with scores of other agents.

As neither drug has been made in sufficient quantity for large-scale clinical trials, we do not even know how long it will take to initiate human studies.

"SOUND BITE" COVERAGE WAS SIMPLISTIC

The article in the *New York Times* brought up some of these points, and did quote one clinical investigator who stated that no data have

shown whether these agents will be effective in humans.

However, the fact that the article appeared prominently on page 1 of the Sunday *New York Times*, coupled with the enthusiastic quotes from prominent scientists, implied that the cure is at hand.

And the cautious part of the message tended to get diluted as other media outlets picked up the story. Sound bite coverage on television was quick and simplistic, with teasers hyping the potential of a cure for cancer. Thus, although the initial story was, on the whole, accurate, the ensuing coverage was simplistic and sensational.

Even so, was any real damage done?

ADVERSE IMPACT OF SENSATIONAL REPORTING ON PATIENTS WITH CANCER WAS IMMEDIATE

All one had to do to understand the impact of the media on cancer patients was to visit an oncologist's office the day after the story hit.

Patients and their families wanted to know how they could get the treatment, some requesting discontinuation of their current (and often effective) therapy. Patients offered to be guinea pigs, just to be among the first to receive the perceived cancer cure.

I even had a woman call to ask if her cat with a malignant tumor could get the antiangiogenesis drugs. In one report, a wealthy patient was said to have asked her doctor what she could do to speed up production of these wonder drugs.

The unrealistic hope that the *Times* report offered to desperate cancer patients was unfair, even cruel. One patient with far advanced and refractory cancer noted that if only she could live a little longer a cure for her disease would be here.

Cancer treatment, even if highly successful, is often long and complex and characterized by questions without definite answers, and toxicities without guarantees for success of the therapeutic program.

It is understandable that patients and their families would seek treatments that are simple, nontoxic, and almost guaranteed to work. The sensationalism of the story about antiangiogenesis agents feeds into this natural, but unrealistic desire.

The unrealistic promise of these stories was even more sad for patients with cancers for which current treatments do not have a realistic chance of significantly prolonging survival. Physicians caring for such patients have an obligation to optimize the quality of the patient's life, even if they cannot increase the quantity of the remaining days.

Fulfilling this obligation often requires a delicate balance between providing some hope, even if minimal, for the short-term future, while at the same time dealing with the serious reality of the present.

Unfortunately, inappropriate and sensationalized reports in the news media regarding "cancer cures" only make it more difficult to maintain that balance, as patients and their families may be led to believe survival is not only possible, but likely, if only they can somehow receive these wonder drugs.

Even if it is not possible to quantify, the harm resulting from sensational medical reporting is quite real.

WHAT'S A PHYSICIAN TO DO?

The toxicity of these agents is unknown

When the media machine gets running full throttle, it is hard to imagine that any individual physician can have much impact in tempering medical coverage. Still, there are things that we can do to counteract the growing sensationalism.

The most important action is to stay engaged. Physicians must interact with the media, be it their local newspaper or network television, to provide a moderating force to those who would oversimplify. This can come in the form of acting as a source in news stories or writing a letter to the editor explaining mistakes and simplifications.

We must also work to explain to our patients that medical progress is often "three steps forward, two steps backward."

There is no easy solution to the problem, the forces driving the sensationalism of news coverage are powerful and ubiquitous. But it is only by remaining engaged with the public dialogue that physicians can influence the perception of our profession.