

## The boy who cried 'cancer cure': Raising false hopes in the news media

Strange things are happening in the frenzied search for a cancer cure. Last week and early this week reports came out of Tennessee that researchers at the Oak Ridge National Laboratory had made a significant breakthrough in the treatment of cancer. *Bacillus Calmette-Guerin* (BCG), it was claimed, had been 100 percent successful in destroying cancers in animals. It was further claimed that BCG had been successfully used in treating skin cancer in humans. But when hundreds of persons from the United States and several other countries began to call and even show up at the Oak Ridge laboratory, they were told that there had been a mistake.

Martin Apple, a cancer researcher at the University of California Medical Center, agreed. He said BCG has been used in France for years on leukemia patients, but its effectiveness is yet to be proved. The researchers at ORNL, he said, were raising false hopes among cancer victims. He said their reports of a 100 percent cure in animals were very misleading and were based on insufficient testing under special circumstances.

The researchers at ORNL then called a press conference to deny making any statement of a cancer breakthrough. The original report, they said, came from the National Cancer Institute and was misinterpreted in a nationally disseminated wire service story out of Tennessee and further exaggerated by the local press. The NCI, which is sponsoring an international conference on BCG next month, then released a statement saying the research had been misinterpreted and that BCG has not yet been proved to be helpful in the treatment of cancer in humans.

The NCI's original release, intended to publicize the upcoming conference, gave some information on the background and use of BCG and referred to the ongoing work at ORNL and NCI.

BCG is a strain of the organism that causes tuberculosis in cattle. It has long been used in some countries as an anti-tuberculosis vaccine. Scientists think it works by stimulating the patient's immune system. In the mid-nineteenth century a German physician reported that persons with tuberculosis rarely get cancer. Since then the use of the drug as a cancer cure has been debated but not demonstrated. More recent evidence, however,

suggests that children vaccinated with BCG may be protected from leukemia.

Michael J. Hanna of ORNL and Berton Zbar and Herbert J. Rapp of NCI recently proposed a mechanism to explain how stimulation of the immune systems of animals with cancer can result in the complete disappearance of the cancer. When the white blood cells are continuously activated by BCG, they summon the histocytes that in turn destroy the cancer. The reaction has been studied in animals and in most instances the induced cancers have been destroyed. But all of the research conducted at ORNL has been done on guinea pigs and there is no mention of treating human cancers at this time. The research has been going on over a period of years and was reported in the May and June issues of the *JOURNAL OF THE NATIONAL CANCER INSTITUTE*.

When the research was first reported, however, it was overlooked by the general press. According to an Oak Ridge spokesman, it was not until the NCI release was sent out, and someone decided that the research could be made to seem much more interesting if a few qualifiers were left out of a news account that the misinterpretations began and grew into an unfortunate situation for all concerned. The original report mentions "animal tests as models for human therapy" and "it is hoped that the results of the experiments on animals, which are aimed at a better understanding of how BCG acts, will shed light on how to make its uses in human therapy more reliable." These statements were taken to mean that human therapy is just around the corner. Both ORNL and NCI scientists deny this. Even if it were, such work would not be done at ORNL.

The incident is now cleared up, but it has been an unfortunate one for several reasons. Such controversies often cast a shadow over the future work of the scientists involved. Such misinformation often misleads the public and gives false hope to cancer victims. But more than that, incidents like this one are becoming more commonplace and may eventually hurt the entire cancer program. Like the boy who cried "wolf," the researcher who eventually does come up with a legitimate breakthrough in cancer will probably be left out in the cold.

to read, Rozin conducted an experiment in which he attempted to teach Chinese words to inner city Philadelphia second graders who had not yet learned to read. In contrast to English, the logographs (pictorial symbols) of Chinese directly map the meaning of whole words. There is no intermediate step for reproducing sound. With the difficult step removed, the children learned 30 Chinese words within six hours.

The experiment demonstrated that a whole-word approach would be easier for children than the conventional phonics approach, says Rozin, but memorization is a problem. A child would have to memorize more and more words to enlarge his reading capacity. With the phonics approach a child has to learn only the 26 letters of the alphabet.

Between the letter and the word, however, is the syllable. The syllable

has the advantage of being more easily pronounced than the phoneme and of being more easily combined than words. Rozin and linguist Lila Gleitman of Swarthmore College have developed a method teaching reading based on the syllable. Their preliminary experiments with kindergarteners indicate that children can learn to read more rapidly and easily if they are taught to pronounce syllables before they are exposed to conventional phonics.

The reading method consists of three steps. First the teacher separates a word and pronounces the syllables slowly while the child tries to guess the word. Next the child is shown pictures of objects that represent meaningful one-syllable words (can, bee, etc.). The pictures are combined with words into a sentence. The same sentence, containing words only, is printed directly beneath the sentence containing pic-

tures. Thus, the child learns to pronounce syllables and recognize them as words. Finally, using words and pictures again, the child is taught combinations of syllables (cow-boy, fireman, etc.). Once the child is able to translate the printed word into a sound he generally knows the meaning of the word. Within seven hours the children could read simple commands.

Rozin and Gleitman say they will have to introduce the children to the phoneme eventually. Syllables alone will never be adequate to learn to read English, they say, because there are so many of them to memorize. But the researchers are convinced children will learn phonics more easily if they first learn syllables. And, they conclude, the syllabic method will give children a reading knowledge of more words sooner than if they are first introduced to the phonics approach. □