Scientists and the Press: Cancer Scare Story That Wasn't

The symbiosis between scientists and the mass media is an unequal relationship in many ways, not least of which is that the media usually take the blame when matters go awry. News stories that raise false hopes or exaggerated fears in the public mind are customarily attributed to the irresponsibility of the press or a newsman's desire not to spoil a good story. But the press is not always at fault. At least where science reporting is concerned, journalists are sometimes as conservative and insistent on caveats as are the sources of their information.

An example of this process at work was afforded at a press conference on cancer research held last month at the National Academy of Sciences. The scientists holding the conference were leading cancer researchers with more than average experience in dealing with the press. Even so, facts were brought out which, if reported exactly as announced, could have caused widespread and unnecessary anxiety. This was not the outcome, chiefly because the journalists present were reluctant to run a story with clearly alarmist potentialities. At the journalists' prompting, the scientists furnished the cautionary statements that, once adopted into the account, turned page one material into a back-page story.

Participants in the conference were Robert J. Huebner of the National Cancer Institute, Sol Spiegelman of the Columbia University Institute of Cancer Research, Maurice Green of the St. Louis Medical School, and Phillipe Shubik of the University of Nebraska at Omaha.

The conference began with an innocuous discussion of RNA-DNA hybridization tests and the horizontal transmission of mammary tumor viruses in mice, but began to veer out of control when Spiegelman was asked if he had searched for a breast tumor virus in primates. Huebner at this point threw in the newsworthy suggestion of a cancer vaccine—"I think maybe they would like to know whether or not . . . you think this might be the place for a vaccine." Spiegelman discounted the idea of a vaccine but proceeded to describe how he and Dan Moore of the Camden Institute of Basic Research had screened for viruses the milk of 180 women, half of whom had a family history of breast cancer. In 60 percent of the group with family cancer history, Spiegelman said, he and Moore had succeeded in detecting virus-like particles similar to the milk-borne viruses known to transmit breast tumors in certain strains of mice. Women with a family history of breast cancer and whose milk contained the viruslike particles would be well advised not to nurse their babies, Spiegelman said.

According to the tape recording of the conference made by the National Academy, the response to Spiegelman's disclosure proceeded as follows.

Q: Dr. Spiegelman, this is undoubtedly very good advice to some woman who may have a familial history of breast cancer, but where will she be able to get this test made? How much will it cost? How many women can be accommodated in the course of a year?

SPIEGELMAN: Well, they've been coming to me as a matter of fact. We have been looking at women free of charge. . . . Unfortunately this assay is not a trivial one that can be carried out in an ordinary clinical lab yet. . . .

Q: Are these particles viruses?

SPIEGELMAN: They are particles which are indistinguishable from others which we call viruses. (*Laughter*). That's caution. You're free to call them what you like, but I have my colleagues to worry about. . . .

Q: Would you make the general recommendation at this point that no woman nurse in the period in which you're——

SPIEGELMAN: No, certainly not, no. Look, if a woman has a familial history of breast cancer in her family and if she shows virus particles and if she was my sister, I would tell her not to nurse the child.

Q: Dr. Spiegelman, the publications we represent have a circulation of many millions. You are asking us to tell women to go out and get a test which is not available.

SPIEGELMAN: No, I'm not telling you to tell them.

HUEBNER: Maybe I can put this in a little different way——

SPIEGELMAN: I don't think you should tell them.

Q: Could you tell us where these tests are available, how much they would cost? Can any hospital do them?

SPIEGELMAN: No!

A REPORTER: Dr. Spiegelman has just said that a woman who has breast cancer history shouldn't nurse.

HUEBNER: No, let's put it a little different way. The point is, the evidence is that this type of virus, the B-type virus, does cause cancer of the breast in highly specific fashion in the mouse, and the point is that this is genetically regulated as well, and some mice get it and some don't, and we know which strains get it in the laboratory and which strains don't, and

The Science of Molecular Analogy

"There is a great deal of difference, to be sure, between bacterial and mammalian cells. One scientist likens the difference in complexity to that between a wheelbarrow and a Cadillac. . . . [Cancer viruses] introduce their genes into the cell's genetic machinery and then subvert it—like a band of rebels taking over a radio station. . . .

DNA and RNA molecules are very complex, made up of thousands of small units, or chemical bases, strung like beads on a thread. . . . These messenger RNA strands are met by tiny bodies called ribosomes, which let an RNA message strand flow through a player. . . . Scientists can fish various messenger RNA's out of the soup-like interior of the cell by employing the DNA that produced them as a sort of magnet. . . .

"If Temin is right, the protovirus is genetic dynamite. . . ."

—From an article in the November issue of *Fortune*.

Briefing

Pro-NIH Cancer Bill Wins

A bill to keep authority for cancer research within the National Institutes of Health passed last week its most serious remaining obstacle —the House Interstate and Foreign Commerce Committee—by a 26 to 2 vote. Until recently, opponents had predicted that the committee would vote down the bill in favor of a Senate-passed version, which would establish the National Cancer Institute as a NASA-style agency independent of the NIH.

The committee supported the bill, which was prepared by its subcommittee on public health and the environment, after having voted down several amendments proposed by Representative Brock Adams (D–Wash.), spokesman for the Administration and for other backers of the Senate bill. A proposal by Adams that the committee accept the Senate bill instead of the version backed unanimously by its subcommittee was defeated 24 to 4. The decisive committee vote should assure an easy passage for the bill when it reaches the House floor, probably later this month.—N.W.

we could certainly advise these mice not to nurse their babies (*laughter*), but the problem is that the type of virus we have in the humans . . . is one that we really have to show is responsible for cancer in the human. . . . I would say at this point that we shouldn't say anything about this because we really don't know what the consequence would be of not nursing some babies whose mothers' milk might be more important than anything else, and you can't do away with that. I mean, once we had Q fever in all the milk in Los Angeles, but we did'nt put it in the newspapers because at that time there were too many children that absolutely had to have that milk.

Q: But this was brought out voluntarily at a press conference here today and you have got some of the largest newspapers in the country sitting around here. What are we supposed to do about it? Is it your advice that we not say anything about this? And how are you going to get agreement among us that we don't?

HUEBNER: I would say . . . right now that we could not, certainly would make no recommendation that women should not nurse their babies.

Q: Do you agree with that, Dr. Spiegelman?

SPIEGELMAN: Yes. I mean, you cannot start a scare like this when we don't really know for sure that this virus particle is the causative agent. All we have is an analogy with an animal system. . . .

Q: Isn't it possible that by letting [doctors] know about this possibility, however unproved, that they might be able to save a life?

HUEBNER: At the present time . . . there is no good evidence proving [that mothers can transmit breast cancer to their daughters].

SHUBIK: I would like to make one comment, which is that there has been a huge decrease in breast-feeding over the past 30 or 40 years and, if anything there has been a slight increase in breast cancer. I would say there is no reason whatsoever for drawing people's attention to the possible clinical implication on the basis of these experiments which are interesting, certainly, but I would think this is not justified and I agree entirely with Dr. Huebner's remarks.

Q: Dr. Spiegelman, though, would you stand by what you said originally, which is for those women who are lucky enough to live near P and S [the Columbia University College of Physicians and Surgeons] and to get into your laboratory and who have a family history of breast cancer, and if your tests show up these B-type particles in their milk, that they should think twice about breast-feeding their children?

SPIEGELMAN: Yes, that I would certainly say.

GREEN: Why inoculate a child with virus particles? I mean, it's clear.

Q: Well, how close are you to a simplification of your test whereby it might be introduced as a routine?

SPIEGELMAN: I don't know. An attempt has been made to make the test more sensitive rather than simple, because we are after information right now. . . .

If any journalist present at the press conference had wished to write a scare story, he had the material to do so. In fact, all were careful to emphasize one or more of the several reservations that their questioning had elicited from Huebner, Shubik, and Spiegelman himself. "A Columbia University cancer researcher said Tuesday new findings suggest a conceivable though wholly unproven danger that some breast-nursing mothers may transmit a potential for breast cancer to their female babies," reported Frank Carey of the Associated Press. Edward Edelson of the New York *Daily News* indicated in his story that "There is no definite proof that the suspected virus causes breast cancer. Even if the milk agent does cause breast cancer, there is no definite proof that transmission of the particle in human milk is responsible." According to William Hines of the Chicago *Sun-Times*, Spiegelman "suggested cautiously Tuesday that women with a family history of breast tumors might consider not nursing their female babies lest a tendency to mammary cancer be passed on through the mother's milk." Writing in the New York *Times*, Harold M. Schmeck mentioned only in the fourth paragraph of his story Spiegelman's warning that "a woman who had a family history of breast cancer and who shed the virus in her milk might be well advised to avoid breast-feeding her infants. He and other scientists emphasized, however, that the particles had not been proved to be viruses related to the cause of breast cancer in humans."

Several accounts further attenuated the force of Spiegelman's announcement by recording the discussion of its significance among the scientists present. And in none of six articles about the conference is there mention of Huebner's suggestion of a cancer vaccine for breast tumors.

Spiegelman's revelation of his study in progress might have seemed incautious if presented to the general press, but in fact it was made in the context of a scientific meeting at the National Academy of Sciences and to a corps of science writers. The restraints that govern the relationship between scientists and the scientific press ensured that his warning was reported, by and large, with no greater weight than he really intended. The National Academy press conference was not exceptional as an example of how scientific news is made, but it stands in contrast to the traditional view, still inclined to in some of academe's groves, which sees journalists only as seekers and mongers of sensation.—NICHOLAS WADE