

Visiting Experts Find the "Mystery Disease" of Naples Is a Common Virus

But part of the mystery remains unsolved

The local press in Naples called it the mystery disease (*il male oscuro*) and blamed it for killing more than 60 children in that city in late 1978 and early this year. It became one of those banner-headline crises that from time to time settle in the public arena and refuse to go away. Then in February an international team of seven medical researchers gathered together by the World Health Organization visited Naples and concluded that the "disease" was really two or three problems, and that the largest of the three was no mystery at all. Their conclusions may have helped to defuse a tense situation, but contributed relatively little to explaining exactly what happened.

The international team dispensed with the mystery by dividing the problems into two categories: those which could be analyzed and explained reasonably well and those which could not. The latter were dropped from the discussion and the former were found to be the result of a common winter outbreak of respiratory virus infection. This solution followed the course charted by Italian researchers, and the visitors had neither the time nor the authority to do much more.

The importance of spreading calm in Naples is not to be underestimated, for one of the very dangerous results of the furor over the mystery disease could be a decrease in public acceptance of Italy's mandatory vaccination program. Some of the early deaths last summer, those which remain unexplained, were associated with the administration of a diphtheria-tetanus vaccination. Health officials for a short time suspended the vaccination program, and as a result, there seems to have been a slight fall-off in public willingness to take the medicine. Neither the Italians nor the visiting experts could discover why children died after receiving these vaccinations last summer, but they know that the problem—whatever it was—has ended. As one of the American experts pointed out, the risk to public health posed by a refusal to accept vaccination is far greater than any hazard that may be present in

the vaccine itself. For this reason, it seemed crucial to him that the vaccination program not be damaged by reports of a *male oscuro*.

The chief reason for the ignorance about the early deaths, those which occurred between August and December of 1978, is quite simple. The hospital where the children died did not begin to do autopsies until December.

The Americans who went to Naples were Stephen Suffin and Gregory Prince of the National Institute of Allergy and Infectious Diseases (NIAID), and William Baine of the Center for Disease Control. They spoke with *Science* after their return, and agreed that it was an oversimplification to say, as one press

were cases in which the "commonest clinical presentation" was encephalopathy or brain damage. In one-quarter of these cases, the children had received diphtheria-tetanus vaccinations a day or two before they became sick. There was no evidence linking their sickness with respiratory illnesses that occurred in the winter. The official report stated simply that the cause of death was "uncertain."

The international experts became involved in this investigation when Giulio Tarro, a virologist at a hospital in Naples, made a phone call "out of channels" to Robert Chanock, a researcher at the NIAID in Bethesda, Maryland. Tarro called on 25 January, 1 day after he had received the first clinical results

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report did, that the deaths in Naples "resulted more from the city's squalid living conditions than from any exotic microbe." All the children who died came from poor and overcrowded homes, the experts said, but no evidence was brought forward to suggest that the children were malnourished, lived in unsanitary surroundings, or came from an environment that was unusual for Naples.

In brief, the experts found that the children who died in the second period, between 1 December and 13 February, were killed by common respiratory infections, including one that is particularly dangerous for infants, respiratory syncytial virus (RSV). This is the kind of problem that occurs every winter, but seems to have been more than usually virulent this year. The children who died earlier, between August and December,

from the laboratory suggesting that RSV might be the lethal virus in the winter deaths. Chanock is recognized as the world's expert on RSV, and Tarro wanted to know whether anyone had created an RSV vaccine. The answer was no. There is no immediate prospect of developing such a vaccine either, because the human body does not seem to produce immunological agents to fight RSV in the familiar way it does for other respiratory infections. However, there is some hope in the finding made in Chanock's lab that certain animals, after being exposed to RSV, provide their offspring with a form of temporary resistance to the disease through mother's milk. All this information was passed along to Tarro.

Sometime after the call to Chanock, the Italian government filed a formal request for consultation through the proper channels, and the World Health

Organization arranged for a seven-member team to visit Naples in February. Chanock could not go, but two of his colleagues, Suffin and Prince, went in his place.

After reading the Italian reports, the visitors recommended that hospital staff physicians be given more training in infant care, that surveillance for signs of RSV in the community should be stepped up, that prompt autopsies should be encouraged (the hospital where most of the children died, according to one of the visitors, performed no autopsies in 1977), and that efforts to collect epidemiological data should be increased. They pointed out that breast-feeding seems to protect infants against some infections, and they suggested that health officials encourage the practice. Perhaps most interesting of all, they wrote: "We do not consider that steroids have any place in the treatment of respiratory virus infections, and their administration should be discouraged. We are not aware of any other therapeutic substance at present of value in the treatment of such infections."

That bit of advice was prompted by the fact that some parents were giving their sick children doses of corticosteroids, potent and hazardous hormones which can be bought without a prescription in Italy. It isn't clear whether the parents used the drug at their physicians' urging or simply decided on their own that steroid therapy would be good for baby. Few drugs are controlled in Italy except for narcotic painkillers, and one member of the group guessed that even these could be obtained without difficulty. He added that steroids seem to be consumed in much the same way that Americans eat exotic vitamins. One grandmother who brought a sick infant to the hospital had given the child five different medicines, including steroids.

The summer and autumn deaths in Naples may remain an unsolved mystery because of the lack of data. Baine, the epidemiologist from the Center for Disease Control, said the "only thing you can say about the cause of the encephalopathy is pretty inferential . . . it's kind of a puzzle." His personal hunch, which he would not dignify by calling an hypothesis, was that there may have been a hidden epidemic of some sort last summer which was undetectable "except that in a few people the association with the vaccination created some sort of encephalopathic phenomenon." This amounts to nothing but a guess, but lacking data, the experts probably will not come up with a better explanation of the mystery disease.—ELIOT MARSHALL

Stringent New Ethics Law Worries Government Scientists

"Mr. Ethics" offers reassurance

The federal science establishment has been thrown into a state that closely resembles panic by the new "ethics in government" act which takes effect on 1 July. Top-ranking government scientists widely regard the new law as a case of good intentions run amok, and several are thinking seriously about redesigning rather than bow to the stringent provisions in the ethics code. Secretary of Defense Harold Brown and Secretary of Health, Education, and Welfare Joseph Califano recently asked President Carter to look into the matter and review its effect on employees in their departments.

Of particular concern is a conflict of interest provision that scientists fear will make them virtually unemployable outside of government if they don't get out soon. According to what is conceded to be the most extreme interpretation of the section titled "post employment conflict of interest," no agency head could take a job that would involve him in dealings with his former agency for 2 full years. For instance, National Institutes of Health (NIH) director Donald S. Fredrickson could not become the president or dean of any university that gets grants from the Department of Health, Education, and Welfare, which is to say that for 2 years he could not take precisely the kind of job he would most likely be offered in academia. The same applies to Richard C. Atkinson, director of the National Science Foundation (NSF), who is on leave from Stanford University. Fredrickson and Atkinson are among those who feel they might be forced to resign. Food and Drug Commissioner Donald Kennedy, also on leave from Stanford, says he could lose many top-ranking FDA officials. Scientists in the Department of Energy, where one man already has resigned, are worried, as are people in the Department of Defense (DOD). Ruth M. Davis, deputy undersecretary of defense for research and advanced technology, recently joked that the new law may finally provide stability in government because "the old people can't get out and new people won't want in." Indeed, there is great concern that the law, which also contains a number of provisions for detailed financial disclosure, will discourage scientists from coming to Washington for periods of one to a few years, as has been common.

But things may turn out not to be as bad as they seem. "The law in this case does not speak for itself," says Bernhardt Wruble, director of the newly created Office of Government Ethics. Its full intent must be made clear through specific guidelines and regulations. Wruble, a presidential appointee and lawyer who happens to be an unknown—and therefore somewhat suspect—quantity to the science establishment, says that everyone's apprehension about the law is "greatly overblown."

[The new Office of Government Ethics is part of the also new Office of Personnel Management (OPM), successor agency to the Civil Service Commission. OPM is responsible for managing the recently enacted civil service reforms.]

In impromptu remarks made at a luncheon that OPM gave on 23 February for leaders in federal science agencies, Wruble, who is being called "Mr. Ethics," said that in writing the regulations his office is trying "to be fair and to make human adjustments" in implementation of the law. "We want to tone the act toward the real world," he said, declaring that it would be "absurd" to shape the law in a way that would cut off the government's supply of first-rate scientific talent.

Wruble's comments were plainly reassuring, but everyone present agreed that the proof lies in the regulations themselves. Although some scientists would like to see the law changed by amendment, additional action on Capitol Hill is unlikely. As a result, everyone is awaiting the final OPM decision with some apprehension. Wruble promises that it will be available for comment within a week or two and says he hopes no one will quit in the meantime.—BARBARA J. CULLITON