

“Secretary Heckler was actually responding to a reporter’s question,” he said, “and I think her answer was a natural response that still occurs in an era of rapid scientific progress. Everyone understands we need a vaccine, and I think people back then were caught up with the enthusiasm of our initial successes. We now know that it is considerably more complicated.”

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1. Shilts R. *And the band played on: politics, people, and the AIDS epidemic*. New York: St. Martin’s Press, 1987:451.

2. Mattapallil JJ, Douek DC, Hill B, Nishimura Y, Martin M, Roederer M. Massive infection and loss of memory CD4+ T cells in multiple tissues during acute SIV infection. *Nature* 2005;434:1093-7.

3. Li Q, Duan L, Estes JD, et al. Peak SIV replication in resting memory CD4+ T cells depletes gut lamina propria CD4+ T cells. *Nature* 2005;434:1148-52.

4. Mehandru S, Poles MA, Tenner-Racz K, et al. Primary HIV-1 infection is associated with preferential depletion of CD4+ T lymphocytes from effector sites in the gastrointestinal tract. *J Exp Med* 2004;200:761-70.

5. Brenchley JM, Schacker TW, Ruff LE, et al. CD4+ T cell depletion during all stages of HIV disease occurs predominantly in the gastrointestinal tract. *J Exp Med* 2004; 200:749-59.

Occupational Hazards

Ted Louie, M.D.

It was a gray Sunday in late February 1993, no longer cold enough for skiing or ice-skating but still chilly and windy enough to be oppressive. As a senior medical resident, I was glad to have a rare weekend off. Unfortunately, my fiancée, also a resident, had to do rounds that morning. She had started to cough and feel fatigued the night before, and I had tried to persuade her to stay home, but she wouldn’t consider it. That was Mei — strong-willed, no-nonsense, dedicated. When there was a job to do, she did it, with verve and passion and with a sweet but determined smile on her face.

I expected her to call me after rounds, but the whole morning went by while I waited restlessly. When the call finally came, Mei’s greeting was not the cheery one I was accustomed to.

“It’s Mei,” said a flat, distant voice. “I’ve been stuck by a needle.”

She had visited a patient who

was dying of AIDS, a gaunt, emaciated cocaine addict who had had intermittent fevers for many weeks. Residents are trained to do blood cultures in febrile patients as a matter of course. The intern was unable to draw the blood, so Mei did it. Ordinarily, she was among the best phlebotomists around, but this day, she was becoming feverish herself. Weak and shaky, she had inserted the needle into the patient’s vein, but as she withdrew it, she had miscalculated, and the blood-laden needle pricked her hand. She had disposed of the sharps properly and quickly washed the hand. Then the horror began to sink in.

We spent much of the remainder of the day on the telephone, talking to the emergency room physician, the chief resident, the infectious-disease fellow, and the infectious-disease attending. We both knew exactly what they would say — that zidovudine prophylaxis might be

of help, that it should be started quickly, that the chances of acquiring the human immunodeficiency virus (HIV) through a needle stick were relatively low — but we needed to hear all that repeated over and over, in soothing tones. The prescription for zidovudine was duly called in to the pharmacy, and I picked up the medicine. Mei now had a high fever and a dry cough. The antiviral drug made her feel worse. Every five hours, I roused her to take the pills; they gave her a headache, anorexia, and nausea and eventually turned her fingernails black. She curled back into a fetal position and slept fitfully, keeping the light on, waking with a start from time to time.

Until that fateful moment, Mei had never considered her own mortality. Patients might die around her, but like many young physicians, she felt somehow immune to their diseases. Now, as she replayed the accident in her mind thousands of times, while

waking and sleeping, she suddenly felt vulnerable and close to tasting death.

Again and again, she second-guessed herself: Why had she not called in sick that morning, when the condition of her 10 or 12 patients was relatively unchanged? Why had she rushed removing the needle, when she was usually so careful? Had it even been the right thing to do, to keep drawing blood from a dying man in a futile bid to prolong his life? His deadly disease had already been diagnosed. Now she had to hold her breath for months before she would find out whether she had contracted it herself.

There were other worries, too. For years, Mei had been the anchor of her family. Her father had recently returned to Taiwan to teach theology, leaving her mother alone in New York. Mei was everything to her mother — financial adviser, repair person, best friend. Who would take care of her parents if Mei were taken ill — or worse?

And what of her own life, which she had promised to share with me? We had planned to see the world, get married, raise a family. Mei adored children, but now she confronted the possibility that she would never have any, and she feared she had let me down. We put off our wedding — we didn't know what might happen next. Mei watched in dismay as her dreams were put on hold.

Somehow, we muddled through the next few months, completing our residencies and passing our internal-medicine boards. Mei

started her fellowship in general medicine, and I worked in an ambulatory care clinic. Although we never completely relaxed, life went on.

Three months passed, and Mei tested negative for HIV. Then three more months went by, and



again, to our great relief, she tested negative. After a year, she was still negative. She felt she had been given a reprieve. We had never selected a wedding date, but now we moved ahead as quickly as possible and within four months we were married.

More than 11 years have passed since that needle stick. Mei's emotional scars have long since healed. She recently started a solo practice, and she spends as much time as possible with our two daughters. For my part, I went on to specialize in infectious diseases, and I now care for patients with AIDS every day. I suppose that after what we endured, I could have taken a dim view of treating such patients.

Instead, the experience helped me to empathize with them, giving me a deepened understanding of what they are facing — the feelings of guilt, the fear of pain and suffering and death, and the uncertainty about what lies ahead. For many, the uncertainty is the hardest part of all. I encourage my patients with AIDS to continue to work and exercise, to live their lives as fully as possible, and in this era of effective antiviral therapy, this goal is generally achievable. Still, they must live with the side effects of strong medications and unrelenting, day-to-day anxieties about the future.

Needle sticks are not uncommon in our line of work. The risk of acquiring HIV from a chance exposure affects us all to some degree. I have seen fine physicians turn away from promising surgical careers to pursue specialties with lower risks. As an infectious-disease physician, I have done my share of counseling. I have seen physicians, most of them quite young, struggle to take antivirals after an exposure to HIV. One weekend, a dedicated surgeon who had been splashed in the eye by peritoneal fluid from a patient with AIDS doggedly continued his hospital rounds despite the nausea and light-headedness caused by the prophylactic antivirals. Although he knew that the likelihood that he had been infected was minuscule, he insisted on taking the medicine in order to protect his young family.

Not long ago, one of the senior residents at our hospital found

me in the hallway and told me she had been stuck by a needle that had been used in a patient with hepatitis C. She was distraught, and I could read in her eyes all the thoughts that were racing through her mind. We talked for a few moments; like Mei all those years ago, she knew exactly what I was going to say — that the chance of acquiring

hepatitis C was quite low — but she needed to hear me say it.

The most conscientious physicians are at especially high risk for being stuck by a contaminated needle. Those who continue to work even when they are very fatigued, who push themselves to draw blood from the “hardstick” patient or perform the extra procedure when they should

be resting, are highly susceptible to needle injuries. Such a shock usually represents their first confrontation with their own mortality. But they may thereby learn an invaluable, if hard-earned, lesson: how to empathize with a patient who fears the very worst.

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