

## Telling Stories

# Eye of the Needle

**David J. Malebranche, MD, MPH**

On a humid September night in New York City, crimson-colored blood trickled down the length of my finger and splashed against a cold grey sink basin. Betadine® and Hibiclens® soap washed over the tiny wound that had resulted from an unlucky combination of fatigue and carelessness. It was a solid-bore needle.

This was the beginning of my first inpatient hospital ward month of my second year of internal medicine residency; my first month as the resident in charge; and my first time as the captain of a team caring for a very sick group of 20 patients with AIDS. I was responsible for supervising 1 intern, 2 fourth year medical students, and 2 third year medical students. Our service was busy, and the days were filled with spiking fevers, lumbar punctures, blood cultures, and arterial blood gases. The year was 1997, and although HIV protease inhibitors had been available for more than a year, people were still dying at an incredible rate from complications related to HIV.

That particular evening, I had just returned from my continuity clinic in Queens and was doing chart rounds on our inpatient service, a daily resident ritual to ensure that nothing was missed on our complex patients before we went home for the night. This time I was by myself—my interns and students had already gone home after rounding with a covering resident, and I was more tired than usual after a long day of attending to both hospital and clinic responsibilities. It was 9:00 pm, and I desperately just wanted to go home and curl up in my bed like a child.

While reviewing our patients' developments over the day, I came across the chart of a 30-something-year-old man with AIDS, a T-cell count of 40/mL, and a HIV-1 RNA level of 400,000 copies/mL. He was also co-infected with hepatitis B and C viruses and had a history of past admissions

for a multitude of opportunistic infections. Now the patient had unexplained fevers, despite being on appropriate antibiotic therapy for pneumonia. The previous team had placed a femoral central line because they were unable to get peripheral intravenous access. Unfortunately, it had not been changed in approximately a week, and femoral lines are notorious locations for iatrogenic infections.

I decided to replace the old central line, as it could explain his persistent fevers, and I feared that he would become septic overnight. Entering his room, I was fully prepared to persuade him that changing the line was necessary at that moment. To my surprise, I found him awake and resting, and to his surprise, he found me rounding late and wanting to address the issue immediately. I explained the situation to him, and he agreed to let me change his central line that night. His only request was that I place the new line in the opposite femoral vein from the one it was already in. He fully understood the increased potential for infection in the groin as opposed to subclavian or internal jugular lines, but he didn't like the idea of an obviously fatigued resident physician poking a needle into his neck at 9:00 pm in the evening. Smart man.

After obtaining consent, I prepped the area around his groin in a sterile fashion, felt for a pulse, and numbed the area with lidocaine. After inserting the finder-needle medial to his artery and getting a flash of dark, non-pulsatile blood, I inserted the guidewire and threaded the catheter in his vein. I was relieved to get the guidewire and catheter through, as this is the hardest part of central-line placement, and I was too tired to try numerous times. After making sure all 3 ports were working, I began sewing the line into place on his skin. I checked in with him periodically throughout the procedure to make sure he was doing okay,

and he consistently reassured me that he was fine. Suddenly I felt a tiny bee sting on my left index finger. I closed my eyes, imagining that what I had just felt was just a resident's hypersensitivity when performing a procedure. It wasn't.

I knew I had stuck myself, but at the moment I was more concerned with how my patient would feel if he saw me go into a panic in front of him. So I calmly completed securing the central line, placed a protective seal over the catheter-insertion site, and disposed of the central-line kit. I left his bedside and stood in front of the room's sink basin, carefully removing my gloves. As I squeezed my index finger and saw my own blood trickle out, visions of solid-bore needles versus open-bore needles began dancing in my head. Solid-bore needlesticks were considered to have a much lower risk for HIV transmission than open-bore ones according to the medical literature, and I repeated this fact to myself in the hope that it would ring true for my situation as well. I put on a bandage after cleansing the pin-size wound, said good night to my patient, wrote a brief procedure note, and went back to my apartment. Denial was my middle name.

The next day I didn't mention the incident to the team during morning rounds, I merely told them that I changed the central line and broadened the patient's antibiotic coverage to include hospital-acquired skin infections. After resident morning report, I told my chief resident, a former infectious diseases fellow, about what happened, hoping he would simply reassure me that it was just a solid-bore needle and I would be fine. Instead, he recommended that I go to occupational health for an urgent evaluation and suggested that I start taking antiretroviral medications as soon as possible. Back then, the standard time frame for initiating HIV post-exposure pro-

phylaxis was within 48- to 72- hours of exposure in order to get the benefit documented in the current medical literature.

Reluctantly, I went to occupational health, had my initial blood work done, and began taking a post-exposure prophylaxis regimen of zidovudine 300 mg twice a day, lamivudine 150 mg twice a day, and indinavir 800 mg 3 times a day. I would be taking a total of 10 pills daily for the next 4 weeks, and the indinavir needed to be ingested on an empty stomach and with at least 1.5 liters of water daily to prevent kidney stones. Several of our patients took this regimen, so I knew it was good for slowing down progression of HIV, and I was hopeful that the drugs would prevent my seroconversion without major side effects.

I resumed my duties as resident for that month, but with the added burden of taking HIV medications daily, on top of my patient care, teaching, and supervising responsibilities. I saw my patients, rounded with my intern, guided my third and fourth year medical students to the best of my abilities, and took each and every pill I was supposed to without missing a dose, as if my life depended on it—and in a way, it did. Headaches, fatigue, and a persistent sense of nausea with a metallic taste in my mouth did not leave me for the entire month. Ice cold bottles of Evian® water became my best friends and worst enemies. I could appreciate the irony of my situation: a resident physician who encouraged patients living with AIDS to adhere to their medications now had to take these very same medications while providing care to them.

September 1997 was undoubtedly the most difficult month during my 3 year residency, and the one that taught me the most about being a patient. Six months after that incident, my tests for HIV and hepatitis B and C

viruses were all negative, and have remained so to this very day. But that wasn't the point. During those 28 days, I woke up each morning wondering how these strange medications that were causing me to feel ill could actually be the same ones preventing me from contracting HIV. In theory, it was easy to write a prescription, hand it to a patient, and tell him or her to take a medication and watch out for certain side effects. It was quite another thing to actually take these medications myself out of necessity and experience their side effects on a daily basis. I was also getting a glimpse into a month in the life of those living with HIV taking these medications, and the perseverance and strength required to maintain one's physical and mental health while doing so. Their lives do depend on it.

The whole situation made me realize that "compliance" is a funny word in the medical profession. In more politically correct terms, we call it "adherence," and given recent advancements allowing people with HIV to take 1 pill a day for their entire regimen, talk of "compliance" may soon fall out of style. In Webster's dictionary, compliance is defined as "the ability or process of yielding to changes in pressure without disruption of structure or function" or "the process of complying with a regimen of treatment." Prior to September 1997, I had no concept of what compliance was, except for the pejorative labels of "non-compliant" that often pepper our patients' charts when describing their reluctance to do what we as medical providers tell them to. If I had been honest with the occupational physician at my last visit, she perhaps would have called me non-compliant because I threw out the final 4 pills I was supposed to take to complete my month of post-exposure prophylaxis. And according to defini-

tions of "complying with a regimen of treatment," maybe I was. My rationale for throwing out those final pills was that I wanted to enjoy a movie that evening without feeling nauseated. Is that really so "non-compliant?" Even if I didn't take those final 4 pills, I saw myself as actually being compliant as noted by Webster's first definition of the word. I yielded to the pressure of having to take medications for that month, and was able to maintain the structure of functioning as a resident for the sake of my patients, my team, and perhaps most importantly, myself.

Many people living with HIV are compliant every day in this sense of the word, yielding to the physical, social, and emotional pressure of being diagnosed with a terminal condition, yet continuing to function productively every day in society while on these medications. I was only able to be this "compliant" because I had a good role model who allowed me to replace his central line late that September evening when he felt sick, even though he could have easily refused the procedure until the next morning. A small, solid-bore needle showed me what it was like to walk in his shoes, even if only for a month. And for that, I am eternally grateful.

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