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First, Do No Harm: An HCV-Infected Surgeon's Difficult Choice

By Jane Perry, M.A., and Janine Jagger, M.P.H., Ph.D.

DR. WILLIAM FISER IS ONE OF THE FEW surgeons in the U.S. who has acknowledged publicly that he is infected with hepatitis C virus (HCV). Last year, he published a letter in the journal *Infection Control and Hospital Epidemiology* (ICHE) that discussed surgeon-to-patient transmission of bloodborne pathogens.¹ He was also featured in an article in *Newsday*, a Long Island (NY) daily; the title was telling: "Deciding to Step Away."²

After becoming ill with hepatitis C, Dr. Fiser resigned his private practice and accepted a faculty appointment in the surgery department at the University of Arkansas for Medical Sciences, where he serves as research director for the pediatric cardiothoracic surgery division at Arkansas Children's Hospital and as medical director for the Arkansas Regional Organ Recovery Agency in Little Rock.

What makes Dr. Fiser's experience unique is that, shortly after he was diagnosed with HCV infection, he learned that

a patient he had operated on less than a year before—his office receptionist—was also infected with HCV.

These events raised compelling moral issues he couldn't ignore.

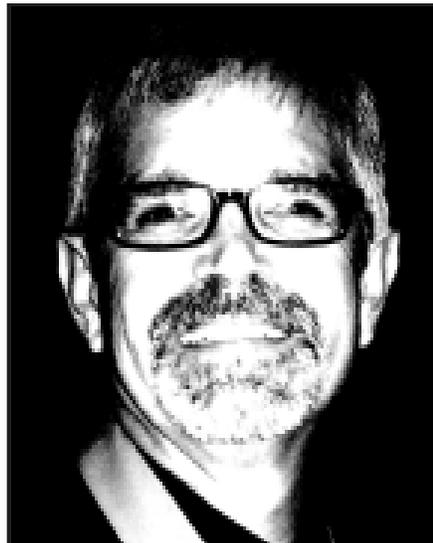
Multiple needlesticks

Dr. Fiser believes he was infected from an occupational sharps injury, since he had no other risk factors for HCV and sustained multiple needlesticks during his career. But he can't identify a specific injury as the source of his infection.

"Cardiac surgeons typically get many, many needlesticks over the course of their careers,"

Dr. Fiser observes. "We routinely use 80 to 100 suture needles per operative case." And, also typically, surgeons tend not to report their sharps injuries, which means there is no documentation if an infection occurs.

Dr. Fiser was diagnosed with HCV in April 1999. "I'd been having symptoms of fatigue and arthralgia and had seen a couple of internists. Ironically, though, my diagnosis was made when I had a medical exam for a life insurance application; it



William P. Fiser, Jr., M.D.

First, Do No Harm (cont.)

included a routine screening for hepatitis C, and I tested positive.”

Although Dr. Fiser had been performing surgery for 20 years, and cardiovascular surgery for 15, up until that point he had never been tested for HCV. “I had my head buried in the sand as far as my risk of getting infected—although I was very compulsive about handwashing and universal precautions.”

He now believes cardiac surgeons are at higher risk than most other surgical specialists for acquiring and transmitting HCV and other bloodborne pathogens. Cardiac surgery is lengthy, bloody, and requires working in a deep cavity, often with poor visibility.

“Dripping blood”

When Dr. Fiser learned shortly after his own diagnosis that his receptionist was infected with HCV, he thought back to her surgery 10 months earlier, an aortic arch replacement: “I was sewing a Dacron graft to the proximal common carotid using a 4-0 Prolene suture needle. In the middle of the procedure, the suture needle stuck my left forefinger. It was a pretty deep stick. I remember it well because my hand was dripping blood—some dripped into her mediastinum. I had to stop and change gloves.”

Dr. Fiser was devastated when he realized he may have infected one of his patients, and he worried that others may have been infected as well. He contacted the Centers for Disease Control and Prevention (CDC) to request an investigation.

“They told me I had to go through the state health department. So I called the Arkansas Department of Health and reported my case and possible transmission to one of my patients. The state’s chief epidemiologist was disturbed that neither of our cases had been reported by the labs that did our blood work. But

HCV reporting guidelines, which are based on CDC recommendations, only require reporting of acute hepatitis C cases.”

Acute hepatitis C is defined as alanine aminotransferase (ALT) levels at least six times above normal limits. As Dr. Fiser wrote in his letter to ICHE, this policy means that “most health departments record only a tiny fraction of all newly diagnosed cases of HCV.” Further, “only a small minority of surgical patients infected with HCV become symptomatic and even fewer do so early enough to recognize any possible relationship to their prior surgery.”¹

The state epidemiologist submitted a request to the CDC for help in investigating the case, but the CDC declined, Fiser was told, because there wasn’t a “cluster” of infections (i.e., more than one known patient potentially infected by the surgeon).

Taking matters in his own hands

At that point, Dr. Fiser decided to conduct his own investigation, at his own expense. He had already discussed with his receptionist the possibility that she acquired her infection from him, but he wanted a more definitive answer. He obtained her permission to have a lab company, National Genetics, compare a stored sample of her serum with a blood sample he submitted.

Earlier testing had indicated they had the same HCV genotype, and it seemed probable that Dr. Fiser was the source of her infection. He lived with that belief for more than two years.

But in 2002, after a long wait, he received results from RNA mapping that showed one difference in the RNA between their hepatitis C viruses. Based on this result, National Genetics concluded the two samples weren’t a match.

“I still have my doubts,” Dr. Fiser says, “because the circumstan-

tial evidence is so strong. Also, the blood sample from my receptionist was drawn before her HCV treatment started, and mine was drawn after treatment—over one year apart. The virus is constantly mutating, which is why it can be so hard to clear, even with treatment. But the experts say it’s probably not the same, and I have to accept their opinion.”

Unsuccessful treatment

Shortly after Dr. Fiser was diagnosed with HCV, he suspended his surgical practice and started combination therapy with ribavirin and interferon, which continued for eight months. But he experienced severe side effects, including anemia and leukopenia. “My treatment had to be adjusted, stopped, then restarted. At one point I was receiving Epogen and Neupogen just so I could continue with therapy.”

Ultimately, the treatment was unsuccessful; today his viral load remains high (greater than 2 million viral particles per 1 ml of blood). Because of the serious complications he experienced, Dr. Fiser says further treatment, even at a low dose, is impossible. A liver biopsy in 1999 indicated he had grade three fibrosis—one stage short of cirrhosis. Since then he has had regular liver surveillance (using ultrasound and other non-invasive methods) to check for hepatomas. He has up to a 5% chance per year of developing a liver tumor, which is an indication for immediate transplant.

Dr. Fiser’s receptionist underwent HCV therapy at the same time he did. Hers, though, was successful: her HCV level is now undetectable (fewer than 1,000 viral particles per ml of blood).

Difficult decision

After Dr. Fiser completed HCV therapy in December 1999, he returned to his surgical practice. But he worried about the risk he posed

to his patients. He also continued to suffer from fatigue and other symptoms of hepatitis C, and found it difficult to keep up with his caseload.

Although the CDC doesn't recommend any restrictions for HCV-infected surgeons, he tried to avoid procedures such as ruptured abdominal aneurysms that typically are less controlled and more exposure prone. "I racked my brain trying to decide what to do; the CDC position was wrong for me. It kept coming back to the Golden Rule. I sure didn't want anyone operating on my family who had HCV, HIV, or hepatitis B."

By August 2000, he'd made up his mind: he decided to permanently close his surgical practice. He was only 47 years old, so it was a painful choice, made with little guidance or support. But he knew it was the right one for him.

Mandatory testing

Before learning he was infected with HCV, Dr. Fiser opposed mandatory testing of physicians for bloodborne pathogens. But he now thinks surgeons should be tested when they join a hospital's medical staff.

"Likewise, I think scrub nurses should be tested before they're hired," he wrote in his letter to ICHE. "After that, both groups should be tested whenever there is a percutaneous injury or other significant blood exposure."

But, he says, "Most intraoperative percutaneous injuries aren't reported or recorded. A more ethical approach would be for serology to be drawn and reported to the injured [worker] any time there is a percutaneous injury during a procedure."

Currently many physicians avoid being tested. Dr. Fiser attributes this to the lack of a "logical, well-thought-out plan" for how to manage infected physicians. He points to a Minnesota law, passed in 2000, as a good model: physicians infected with HCV, hepatitis B, or

Mark Davis, M.D., on OR safety

Infection of a healthcare worker—or a patient—with a bloodborne pathogen is as much a medical error as incorrect delivery of a medication which injures or kills a patient.

Although safety devices that can prevent the types of sharps injuries most commonly incurred by surgeons and anesthesiologists have been commercially available for years, such injuries are still frustratingly common in operating rooms. High-yield, evidence-based prevention strategies include blunt-tipped suture needles, safety I.V. catheters, safety syringes, and needleless I.V. systems.

Much has been written about the need for our healthcare delivery system to follow the example of the aviation industry—to implement safer systems that prevent adverse events. While portions of a surgical procedure may require more variation than landing an aircraft, some standardization of safety devices and safety protocols during surgery is clearly needed. These changes can be implemented without compromising patient care.

I receive frequent phone calls and e-mails from OR managers and infection control professionals telling me that safer devices and safer systems for the OR aren't as widely implemented as they could be. Widespread education for all surgical care providers, supported by informed healthcare leadership, is the best hope for standardization of safety in our operating rooms. □

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HIV are assigned a monitor by the state health department and sign a contract in which they agree to eliminate exposure-prone procedures and make other practice modifications as recommended by the monitor.

Needed: Incentive for change

Dr. Fiser believes the most important safety measures surgeons can adopt are use of blunt-tip suture needles and double-gloving. "Careful hand washing and universal precautions aren't enough. When there can be greater than two million viral particles of HCV per milliliter of blood, it doesn't take a large exposure to get infected."

Dr. Fiser commented in his letter to ICHE that many cardiovascular surgeons and their assistants have the preconceived notion that they can't operate wearing double gloves. "I used to be one of those surgeons, but I am now certain that cardiac surgeons can operate effec-

tively wearing double gloves."¹

He thinks more effective barriers, such as puncture-proof gloves, need to be developed. "These kinds of innovations would be more expensive, and right now everyone is trying to contain cost. Blunt suture needles also need to be more widely used. But where is the incentive to change?"

Dr. Fiser believes that if there were more data regarding surgeon-to-patient transmission of pathogens, surgeons might be more inclined to adopt safety measures.

"If the CDC did turn over this rock and tried to define the extent of the problem, the data would be compelling. It's easy not to change when you have little or no data." □

References

1. Fiser WP. Should surgeons be tested for blood-borne pathogens? *Infection Control and Hospital Epidemiology*. 2002;23(6):296-297.
2. Rabin R. Deciding to step away. *Newsday*. 12/27/02, p. A03.