

Subcutaneous Administration of Immune Globulin Is It for You?

By Dan Bennett

Living in a house made of steel and concrete seems like a good way to fend off intruders.

When intruders are in your own body, though, you need all the reinforcements you can get.

Marilyn McVicker knows a lifetime of intrusion and illness. After a sickly childhood, McVicker was diagnosed at age 17 with IgA deficiency, asthma, allergies, chronic rhinitis, bronchitis and pneumonia. In her 20s, she developed malar rash, low-grade fevers and joint edema, in conjunction with pneumonia and bronchitis, and had positive autoantibody tests.

"I was also diagnosed with mixed connective tissue disease," McVicker said. "By my 30s I had to leave my profession and go on disability, because I was sick a majority of the time. I was ill from exposures to people, crowds, sunlight, chemicals and irritants, foods and medications. During this time, my blood levels were checked, and I was found to have continued IgA deficiency, with two IgG subclass deficiencies, a C-3 deficiency and neutropenia. I was having increasing difficulty with illnesses, infections and sensitivities to chemicals, fragrances and irritants. I left the city and relocated to a cleaner environment."

It was in North Carolina that McVicker built her house of concrete

and steel to help protect her from her allergies. Illness continued, though, until a doctor at last figured out that McVicker needed injections of an intramuscular immune globulin. Then, a year ago, McVicker began intravenous (IV) infusion of immune globulin, but she had problems with vein access, distant hospital visits and other factors.

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"My treatment was often delayed because of unavailability of the specific product prescribed by my physician," she said. "I was having reactions following hospital visits, because of my susceptibility to infections, and [reactions to] chemical fragrances and disinfectants. The nursing staff was having increasing difficulty finding venous access. It was taking close to an hour to get an IV started, with new sites being used, such as the bony arch of my foot. Needless to say, it was not pleasant."

In September 2005, McVicker began taking her dosage subcutaneously—or the popular shorthand "SubQ"—one of an increasing number of IG consumers to do so.

An off-label use for most brands of immune globulin (ZLB Behring began marketing the first U.S.-licensed subcutaneous product in January), the subcutaneous method involves immune globulin self-administered under the skin. It is sometimes recommended when vein access is consistently difficult or adverse side effects from IV administration occur. This method has long been approved in Europe and enjoys popularity there.

"Using the subcutaneous method has changed my life, and I'm only getting 3 grams," McVicker said. "It's remarkable that subcutaneous infusions have solved all of the problems I was having with IVIG. I no longer have to travel backcountry roads, and I am able to infuse at home, alone, with neighbors as backup for me. I no longer have to worry about encountering flu epidemics or other pathogens at the hospital. And most pleasant of all, I do not have to sit there while someone torturously tries to fish around for about an hour to find a vein."

McVicker has slowly increased her dosage. "I am currently receiving 3 grams a week or 12 grams a month— more than double what I could tolerate intravenously," she ➤



said. "I still have not reached therapeutic blood levels, but I am definitely improving."

Neil Ross can relate to such improvements. Ross was also having trouble adjusting to IVIG infusions, experiencing severe stomach reactions, chills, fever and aches and pains. Two years ago, Ross began looking for a change.

"I went on a search," said the 50-year-old sales representative. "I told my doctor, 'Let's not do this anymore.' I started doing research and found that subcutaneous was increasingly popular in Europe. Of course, it was extremely off-label here, and the thinking was that you almost had to be in the hospital before a doctor would consider it. But I was able to try it, and the results were just what I needed."

Changing to subcutaneous administration went beyond the disappearance of adverse side effects, Ross said. "It was freedom for me. It was treatment at home. It was a total improvement in quality of life. I found just the level I needed in three months."

Ross now not only feels better himself, he helps others in similar situations, as a sales representative for a homecare services company and as a volunteer for an immune deficiency advocacy group.

"There are only 50,000 people diagnosed [with primary immune deficiency disease], and I know what those people are going through," Ross said. "I've had a lifetime of illness, and I know what it's like to catch something every time you go out of the house. It makes me feel better just knowing I'm helping other people out there."

Dr. David Lewis, a professor in the department of immunology and transplant biology at Stanford School of Medicine, and an attending physician at Packard Children's Hospital in Palo Alto, Calif., sees subcutaneous administration as a leading method in the future.

"I routinely offer SubQ as an option now," said Lewis, who had a dozen or so patients using the method last year. "If the patient has never been on gamma globulin, I start them on IV so they can get up to a therapeutic

level right away. After a couple of doses, we make the change [to SubQ]." Lewis says there are several issues

involved in the choice between IVIG and SubQ. "In very young kids, there are sometimes some technical issues," he said. "Children and adults are open to the idea, while younger adults sometimes prefer to get the treatment over right away."

Lewis has seen some success stories with the SubQ method. "Some results have been remarkable," he said. "I have a patient who was having a terrible reaction to IVIG, but we were able to get her back on therapy with SubQ. The big advantage of SubQ is there is very little decrease in terms of safety, while avoiding the negative side effects of other methods."

Long-term costs are another factor.

"I would not be surprised if SubQ became the dominant form of administration, not only because of the physical benefits, but also because it's more cost-effective," Lewis said. "The word of mouth about SubQ among patients and families will give the method more power. I'm optimistic about that, and I think most clinicians are now quite comfortable with the method."

Patients such as Marilyn McVicker will likely be among those spreading the word. "My staph skin infections have lessened, and my overall health, energy and wellness have improved to the point that, for the first time, my doctor is encouraging me to have guests," McVicker said, just before Christmas 2005. "My daughter and my little granddaughter will be visiting me for the holidays, and I am thrilled. I have two grandchildren who I haven't even met yet, and I am looking forward to meeting them, as we space out our visits, and weave our way carefully into a life that seems hopeful, a life that will include family contact, improved health and a new quality." ■

In the June-July 2006 issue of IG Living, we will explore immune globulin administration via a port.