

Botox plays powerful healing role

Pain from muscle spasms after reconstruction minimized with approach pioneered by PeaceHealth plastic surgeon



Dr. Allen Gabriel, second from right, injects Botox into the pectoral muscle of a patient during breast reconstruction surgery Sept. 2 at PeaceHealth Southwest Medical Center. Botox temporarily paralyzes the muscle, making the several-months-long reconstruction process less painful.

By **Marissa Harshman**, Columbian Health Reporter
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Photo Gallery



October is National Breast Cancer Awareness Month. Find more stories of courage, treatment and survival in the face of breast cancer at www.columbian.com/news/health/breast-cancer

- o 235,030 -- Estimated number of new breast cancer cases in the U.S. in 2014.
- o 232,670 -- Estimated number of new breast cancer cases in women in the U.S. in 2014.
- o 40,430 -- Estimated number of breast cancer deaths in the U.S. in 2014.
- o 122 -- Number of women per 100,000 women in the U.S. who had breast cancer from 2006 to 2010.
- o 5,620 -- Estimated number of new breast cancer cases in women in Washington in 2014.
- o 820 -- Estimated number of women in Washington who will die from breast cancer in 2014.
- o 131 -- Number of women per 100,000 women in Washington who had breast cancer from 2006 to 2010.
- o 29 -- The estimated percentage of new cancer cases among American women in 2014 that will be breast cancer.
- o 2 -- Breast cancer is the second leading cause of cancer death among women in the U.S., following lung cancer.
- o 61 -- The percentage of breast cancer cases diagnosed at the localized stage (hasn't spread outside the breast).
- o 99 percent -- The five-year relative survival rate for women diagnosed with localized breast cancer (hasn't spread outside the breast).

SOURCE: American Cancer Society

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The decision to undergo a double mastectomy and breast reconstruction surgery was an easy one for Erin Graves.

The 40-year-old Portland woman had tested positive for a mutation to her BRCA2 gene, one of two breast cancer susceptibility genes. Doctors estimated she had an 87 percent chance of getting breast cancer.

But the procedures were cause for some concern for Graves.

She had heard stories of terrible muscle spasms from other women who underwent reconstruction. She feared the pain from the reconstruction would leave her unable to care for her two young children, 4-year-old Richard and 2-year-old Reese.

But Graves didn't experience any pain from muscle spasms. The only pain she encountered was the expected soreness from the surgery.

"I was able to function with the kids from day one," she said.

Graves credits her spasm-free recovery to Dr. Allen Gabriel and his use of Botox during breast reconstruction.

Gabriel, a plastic surgeon at PeaceHealth Medical Group Plastic Surgery, pioneered the use of the drug as a way to manage breast reconstruction pain without prolonged use of heavy narcotics.

"Botox plays a very important role in their healing, in my opinion," Gabriel said.

Preventing spasm pain

During breast reconstruction, an expander is placed on top of the pectoralis minor chest muscle and beneath the pectoralis major muscle.

Fluid is put into the expander — during both the surgery and subsequent office visits — to stretch the pectoralis major muscle and create a pocket for an implant. Once the expander is filled and the muscle heals, it is replaced with an implant.

During the expansion process, however, the fluid puts pressure on the muscle and can cause painful spasms. An injection of just 10 cubic centimeters, which is equivalent to less than one tablespoon, can cause spasms, Gabriel said.

"The biggest fear of reconstruction is the pain of the expanders," Gabriel said.

Photo Gallery



After seeing so many patients in pain, Gabriel and his mentor Dr. G. Patrick Maxwell, who practices in Nashville, Tenn., started thinking of ways to reduce pain. They theorized that Botox injections would offer pain relief by temporarily paralyzing the pectoralis major muscle during the expansion process.

So in 2007, they launched a small study to test the theory. Thirty women scheduled for mastectomies and reconstruction were divided into two groups. One group received Botox injections in four spots in the pectoralis major muscle. The other group received saline injections.

Gabriel didn't know which patients received saline and which received Botox, but he quickly figured it out during post-surgery, follow-up exams.

"We could tell right away," he said. "It's a night-and-day difference."

Patients who received Botox didn't experience muscle spasms and stopped taking pain medications within days, rather than weeks, Gabriel said. And because the patients weren't experiencing painful spasms, they could receive more fluid during expander injections, he said.

With Botox, Gabriel typically injects 90 to 110 cubic centimeters of fluid at one time into the expanders. That means the expanders can be filled in just two or three injections as opposed to six to eight injections, he said.

The Botox takes three to seven days to kick in and lasts about three months, which covers the typical length of the reconstruction process, Gabriel said.

Off-label use

The use of Botox during breast reconstruction is an off-label use, which means it's being used in a way different than what is described on the Food and Drug Administration-approved label. Off-label drug use is not regulated, but it is legal in the U.S. Patients have to consent to the drug's use, but because it's off-label, insurance companies will not pay for it, Gabriel said.

Gabriel has used Botox on nearly all of his breast reconstruction patients — more than 300 women — since September 2008. PeaceHealth Southwest Medical Center and hospital foundation grants cover the cost of the Botox so the patients aren't charged, Gabriel said.

The off-label drug use didn't concern Battle Ground resident Susan Pagel. The 52-year-old underwent mastectomy surgery in October 2013.

"I knew this was going to be a painful procedure," Pagel said. "Mastectomy is not for wimps."

But Pagel didn't want to use narcotic pain medication any longer than she needed to.

"It was important for me to get off those drugs as fast as I could, and Botox was the means for that," Pagel said.

Within four days of surgery, Pagel was no longer using prescription pain medication. She used ibuprofen to mitigate any discomfort and swelling she experienced.

"I felt good because I wasn't drugged," she said. "I wasn't in pain."

In June, Pagel had scar revision surgery. She experienced some complications from the procedure, and one of her implants needed to be replaced. By then, the Botox had worn off. Pagel experienced a small spasm after the surgery and was shocked by the pain.

"I just remember thinking, 'Wow, if this is just what it's like without Botox, if this is just a hint, I wouldn't have made it,'" Pagel said.

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