MISSOURIAN

MU nursing student donates bone marrow to stranger

By Kristin Noe January 4, 2008

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Katie Quinn went to the Hearnes Center in April to donate blood at one of MU's biannual drives. She was turned away by the Red Cross that day because of low iron levels, but Quinn had another option. The 21-year-old MU student walked to the other side of the Hearnes Center to a drive held by Deutsche Knochenmarkspenderdatei, which in English means German Bone Marrow Donor Center.

It is the largest nonprofit bone marrow donor center in the world. According to its Web site, the German center has facilitated more than 9,000 transplants since it was founded in 1991, and it now has 1.6 million registered donors, including Quinn.

The organization relies on volunteers to organize events around the country, and MU student Julie Zick offered her assistance.

"My cousin was diagnosed with leukemia three years ago and needed a bone marrow transplant but couldn't find one," Zick said.

With the help of the German Bone Marrow Donor Center, Zick's family started organizing donor drives in their hometown of St. Louis, and her cousin received a transplant from a donor in May.

Zick wanted to draw attention to her cause, so she thought MU's blood drives, with their high participation rates, would be a good place to set up a bone marrow drive. After gaining permission from the Red Cross, Zick was provided with all the supplies and assistance she would need to organize the drive, including representatives from the German Bone Marrow Donor Center to answer any questions donors might have.

"People should be included in the registry so that people who need a transplant can find a donor," Zick said. "People think giving bone marrow is still a big needle in your back, but it's just like giving blood now."

A representative of the bone marrow center contacted Quinn in the beginning of September and told her the cheek swab she gave showed a similar DNA match to someone in the organization's registry needing a transplant.

Although more blood tests were needed to determine the level of similarity, Quinn later discovered she was a perfect match for a 22-year-old woman with acute leukemia.

Quinn was told the recipient of her bone marrow donation was considered an emergent case because of a failed transplant from the recipient's brother.

"She didn't accept (a transplant) from her brother. How well would she accept from a stranger?" Quinn said she wondered at the time.

Leukemia is a cancer of the bone marrow and blood and there are two forms, which progress at two different rates. Acute leukemia is a disease that progresses rapidly and results in the increase of immature, functionless

cells in the marrow and blood. The marrow can no longer produce enough healthy red blood cells, white blood cells and platelets. The lack of white cells prohibits the body from fighting infections, while a shortage of platelets causes bruising and easy bleeding. Conversely, chronic leukemia progresses more slowly and enables a greater number of functional cells to be produced. The only real difference between the two is the rate at which they progress.

According to the Leukemia and Lymphoma Society's Web site, an estimated 44,240 new cases of leukemia will be diagnosed in 2007 in the U.S. About 218,660 people in the United States are living with leukemia, according to the organization's Web site.

"At first I was really excited that I could potentially be helping this young girl," Quinn said. "But then, at the same time, it was the start of a really hard semester, and it was hard to know if I was going to be able to do this while doing my clinicals."

After deciding to go ahead with the donation, the German Bone Marrow Donor Center set up Quinn with a spokesperson who sent her information at every step of the process. Quinn donated peripheral blood stem cells through apheresis, a process in which blood is removed from a large vein in the arm, spun through a machine that removes the stem cells and then returned to the donor. No hospitals in Columbia facilitate this type of donation; Quinn had to travel to St. Louis for the procedure.

Four or five days before the procedure, Quinn, like many donors, received Filgrastim shots, which stimulate the development of white blood cells.

"After the first two days, I had horrible bone pain in my lower back and the main bones of my arm," Quinn said. With the third and fourth shots, she had headaches that lasted all day and through the night. These are common side effects of drugs like Filgrastim.

On the day of the procedure, Quinn was "poked" at 9:15 a.m. and the needles were taken out at 3:30 p.m. Apheresis for obtaining peripheral blood stem cells usually takes four to six hours — far longer than a typical blood donation.

"It was just like donating blood for a really, really long time," Quinn said. "I was cold the whole time, so I always had three blankets on me. After I was done, they gave me a Nutri-grain bar to eat, and I felt like I was moving in slow motion."

Quinn slowly brought her hand to her mouth, imitating her own movements.

“I kept missing my mouth, and it was really weird because I hadn’t moved in so long,” she said.

Quinn’s legs tingled for about two hours afterward, but she began feeling normal again that night.

In one month, Quinn will find out how the recipient reacted to the transplant. In a year and a half to two years, they will be able to contact each other. Throughout the donation process, people repeatedly reminded Quinn about the significance of her donation.

“They kept saying, ‘You are giving her a second chance, a second opportunity at life,’” she said. “It’s a great opportunity.”