From cow brains to human kidneys

Transplant surgeon establishes cancer research scholarship in honor of her experience at K-State

By Marcia Locke

$1,686,000 has been invested in undergraduate research training since 1980.

Photo by Karen Roeder

Lori Kautzman, M.D., performs more than 50 kidney, liver and pancreas transplants a year. She loves her work and credits her undergraduate cancer research experience at Kansas State University for the professional path she took.

Kautzman enjoyed math in high school but rejected her guidance counselor's only career suggestion to be a math teacher and enrolled in business at K-State in 1996. Within a year, she switched majors again, this time to biology, and thrived.

In her third year of college — second in biology — Kautzman received a Cancer Research Award from what was then called the KSU Cancer Center. It was later renamed the Terry C. Johnson Cancer Research Center in honor of its founding director and Kautzman's cancer research mentor.

For her award, she would investigate a naturally occurring protein compound called CeRes-18. It stops a cell from dividing and hastens cell death. This is important for cancer research because cancer cells over-divide and do not die when they're supposed to.

Surprisingly, her research would also involve harvesting cow brains. Yes, removing cows' brains.

Kautzman and Johnson traveled to a couple of slaughterhouses a week to procure brains from freshly killed cattle. They needed the tissue for their research. One cow brain provided the same amount of CeReS-18 — one-millionth of an ounce — as 300 mouse brains.

Kautzman did it all — from resecting brains to isolating CeRes-18 from the tissue to studying it under a microscope.

"It didn't gross me out; I thought it was cool," Kautzman said. "That's when I figured out I can deal with blood and guts."

Meanwhile, her grandfather was diagnosed with an aggressive leukemia and died soon after.

"I became even more fascinated with cancer, how one cancer cell can multiply and wreak havoc on your body," Kautzman said.

Kautzman graduated in only three years. While figuring out what to do next, she worked in Johnson's lab and at the cancer research center. Johnson and other colleagues knew she loved science but not the isolated laboratory environment, so they encouraged her to go to medical school.

She didn't consider it seriously at first but then decided to go for it. She was accepted at the University of Kansas Medical School. During her clinical rotations, she fell in love with transplant surgery.

Kautzman is now an abdominal transplant surgeon in Texas, performing liver, kidney and pancreas transplants and other cancer surgeries. She credits her undergraduate cancer research experience for the trajectory she chose and the fulfilling career she now has.

"My research experience helped me decide what to do and not do with my life," Kautzman said. "It was invaluable and has helped me tremendously in my life."

In 2019, she established the Kautzman Family Cow Brain Scholarship to support undergraduate student cancer research.

"Scholarships helped me and I always wanted to give back to honor Dr. Johnson and everything he did for me," Kautzman said.

"It was a good time for me financially and, in my line of work, I know life can be short."

"I also love young students who have good energy and want to pursue something, whether it's a doctorate, medical degree or whatever," Kautzman said. "And I feel like the Cancer Research Award holds students accountable, unlike other scholarships where the students just get the money and don't do anything for it."

The Kautzman Family Cow Brain Cancer Research Award may be just the help some future life-saving medical workers or scientists need to achieve their dreams.