Clara Bloomfield, MD

For Dr. Clara Bloomfield, nothing beats the thrill of discovery. It is a feeling she knows well: Dr. Bloomfield's discoveries over the past nearly 40 years have helped to transform leukemia and lymphoma from incurable, devastating diseases to ones for which cures are possible for many patients.

Dr. Bloomfield's dedication to treating leukemia and lymphoma grew out of experiences from her childhood. As a student in the 1950s, she witnessed the terrible toll of the diseases after several classmates developed leukemia.

?I thought from an early time that it would be terrific if I could do something so that people wouldn't die from these terrible diseases.?

Two decades later, during a postgraduate fellowship at the University of Minnesota, she was tasked with cataloguing all of the patients at the institution that had ever had leukemia. The project deepened her resolve to specialize in this area of medicine.

?I looked at over 100 consecutive patients who had been treated over the preceding ten years, and they had all died,? she recalled. ?The longest survivor was a 17-year-old who had lived three years.?

?After that project, I felt certain that leukemia was an area where I could make a difference.?

Early in her career, Dr. Bloomfield had the foresight to see that personalizing each patient's treatment based on the unique characteristics of their cancer might greatly improve survival. Her first expression of this idea came when she was just beginning as an assistant professor at the University of Minnesota. During an interview for a grant, she received a blunt question about how she was going to approach her research.

?I stumbled a bit, but somehow, quickly, I came up with an answer,? she recalled. ?I said that I was interested in looking at the characteristics of leukemia cells to determine which patients should get what kind of treatment.?

At the time, in the 1970s, it was an unorthodox concept. Scientists had limited understanding of the genetics of cancer, and little means for differentiating between one person's disease and another. But this insight laid the foundation for major advances in the field of leukemia and lymphoma classification and treatment.

Today, doctors understand that leukemia and lymphoma are really a set of several different cancers, each with its own genetic profile and other characteristics. In some cases, today's treatments can target very specific mutations within a patient's cancer cells, leading to better effectiveness and fewer effects on healthy cells.

As a result of more tailored and effective treatments, survival rates for leukemia and lymphoma patients have increased dramatically. In 1965, researchers reported that they could only find 18 patients worldwide with acute leukemia who had survived five years after diagnosis. For some leukemia subtypes, the cure rate exceeds 80%.

Dr. Bloomfield's contributions to the field have played a significant part in this progress. For example, she was the first to identify the Philadelphia chromosome in acute lymphoblastic leukemia, a discovery that changed the standard of care for this disease. Her work in this area also led to new standards for diagnosing acute myeloid leukemia, internationally and in the U.S.

When asked what has enabled her to have an impact, Dr. Bloomfield points to the importance of questioning established ways of thinking: ?Today, I always tell young people that it's so important not just to listen to what your elders say, but to think through things yourself and be willing to challenge authority. That's how we make progress.?

Dr. Bloomfield credits ASCO for providing a forum where she could meet and exchange ideas with researchers from around the world who were doing similar work. ?ASCO's Annual Meeting is always a coming home for me,? she said. She attended her first ASCO meeting in 1972 and later was the only woman on the editorial board of ASCO's *Journal of Clinical Oncology* when it was launched in 1983.

Going forward, Dr. Bloomfield is hopeful that her current research on the molecular differences between older and younger patients with leukemia and lymphoma will help improve long-term survival for patients over age 60. While cure rates have reached for younger patients with these cancers,

just 10% of patients over age 60 are cured.

Going forward, Dr. Bloomfield is hopeful that her current research on the molecular differences between older and younger adult patients with acute myeloid leukemia will help improve long-term survival for patients over age 60. While cure rates have reached nearly 40% for younger adults with these cancers, just 10% of patients over age 60 are cured.

She is also a dedicated mentor to many younger physicians, and hopes that her guidance will help them make a lasting impact for people with cancer.

?I give my fellows two pieces of advice - challenge long-held truths and always remember that whatever you are studying needs to lead to better treatments for patients. They shouldn't forget that the real goal of all their work is to help the patient and stop the cancer.?

Clara D. Bloomfield, MD, is the recipient of the 2009 David A. Karnofsky Memorial Award for her groundbreaking contributions to clinical research and for her outstanding impact on the treatment of patients with cancer. Dr. Bloomfield was among the first physician-scientists to investigate viable treatment options for older patients with acute myeloid leukemiaâ€"previously believed to be fatalâ€"and to discover that the disease could be cured in this population using chemotherapy. Dr. Bloomfield is a Professor at The Ohio State University (OSU) Comprehensive Cancer Center, where she also is the William G. Pace III Endowed Chair in Cancer Research.

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