‘Supercells have changed my life’: The $3 million sickle cell disease CRISPR cure

In July 2019, [Victoria] Gray became the first patient to receive a new therapy for [sickle cell] disease based on gene editing with CRISPR. This revolutionary technology invented in 2012 makes it possible to correct errors in the instruction book of 3 billion letters of DNA that make up the genome of a human being.

The new treatment involved extracting blood stem cells from Gray’s bone marrow, isolating them in the lab and using CRISPR’s molecular scissors to cut her genome right at the position of the BCL11A gene.

“Thanks to my supercells,” she explained, her voice almost breaking, “my life has changed completely. It is the closest thing to a cure that has been seen since the disease was discovered 113 years ago.

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These treatments will be among the most expensive in the world. They will cost around three million dollars (about 2.8 million euros), to which one must add the cost of several months of hospitalization, transfusions and chemotherapy. It is highly doubtful that such a product will reach the areas where more than 90% of sickle-cell anemia cases occur: Africa and India.

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