

PATIENT INFORMATION: Hydroxyurea

What is hydroxyurea?

Hydroxyurea is a medication that was first tested in the 1980s as a medication for sickle cell patients. Research has proven that adults who take hydroxyurea regularly have a decrease in the number of pain episodes, hospitalizations, blood transfusions and acute chest episodes. Now it has been found that if it is given early in life, it may have the same effect in children and also help prevent organ damage, and possibly blood vessel damage and stroke.

How does it work?

In sickle cell disease, sickled red blood cells clog blood vessels and block blood flow. This causes pain as well as damage to the organs including the eyes, brain, heart, lung, kidneys, liver and bones. Hydroxyurea works by changing the shape of the red blood cells so that they are round and flexible and do not block blood flow. Hydroxyurea triggers your child's body to make more fetal (baby) hemoglobin. This makes red blood cells round and flexible. It also helps to suppress his or her immune system slightly. This helps reduce the inflammation associated with sickle cell disease. It usually takes three to six months to see the benefits from taking this medication.

Hydroxyurea must be taken daily for it to work.

Side effects

The most common side effect of hydroxyurea is a temporary decrease in the white blood cell count (infection fighting cells). Rarely, we may see a decrease in the platelet count (cells that help blood clot). This is why it is important that we check your child's blood counts on a monthly basis. If there is a decrease in blood counts, we may change your child's dosage or temporarily stop the medication until the blood counts are normal again. Some patients also report a change in skin and/or nail color.

If your child develops a fever of 101°F or greater, sore throat or abnormal bruising, call the sickle cell team immediately. These symptoms may be an indication that your child's blood counts are too low. Both male and female adult patients must practice birth control, as there may be an increase in birth defects if used while pregnant. Pregnancy tests will be done each month with labs. Research continues to be done to evaluate potential long-term side effects with hydroxyurea including issues with fertility.

What are other parents saying about hydroxyurea?

"It is wonderful for the children that need to take it. She was in the hospital almost every month before she started the medicine. She hasn't been in the hospital for one year. It's awesome!"

– mother of 9-year-old girl

"It has done wonders. Since he has started the medication, he has not been sick. He has not been sick this whole winter. He hasn't had yellowish eyes."

– mother of 12-year-old boy

Rainbow Sickle Cell Anemia Center

If your child has signs or symptoms of illness, please call 216-844-3345 and follow the prompts.

Angie Fowler Adolescent & Young Adult Cancer Institute at University Hospitals

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Have a question? Ask a Rainbow doctor. **216-UH4-KIDS** | **216-844-5437** | Rainbow.org/AngiesInstitute

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