Yury Verlinsky, Expert in Embryonic

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Published: July 22, 2009

Yury Verlinsky, who was one of the first scientists to develop techniques to detect genetic disorders in embryos and who helped make that screening available to parents around the world, died July 16 in Chicago. He was 65. The cause was colon cancer, his son, Oleg, said.

Dr. Verlinsky, who fled the Soviet Union in 1979 after being barred from pursuing his research there, was an early practitioner of what is called pre-implantation genetic diagnosis, or P.G.D.

During in vitro fertilization, P.G.D. can be performed before an embryo created in the laboratory from the mother's egg and the father's sperm is implanted in the uterus. A biopsy is done on the embryos, and the cell specimens are subjected to genetic testing. Only an embryo without a genetic abnormality would be implanted in the womb.

Some couples who can conceive a child naturally, but who carry a genetic disease, may choose to undergo the in vitro technique so that they can use P.G.D. to select healthy embryos.

P.G.D. has been used to prevent more than 200 diseases, including hemophilia, sickle cell anemia, muscular dystrophy, Tay-Sachs disease, cystic fibrosis and Huntington's disease.

Dr. Zev Rosenwaks, the director of the Center for Reproductive Medicine at NewYork-Presbyterian Hospital/Weill Cornell hospital in Manhattan, said Monday that Dr. Verlinsky had been responsible for some of the firsts in applying P.G.D. to certain diseases.

Among his other advances, Dr. Verlinsky was the first to combine P.G.D. with a procedure for tissue typing to determine whether an embryo would be free of the genetic defect so that afterward stem cells from the newborn child could be used to treat a diseased family member.
That first test involved a pregnant woman in a family with a first-born child who suffered from Fanconi anemia, a rare disease that causes severe low red blood count and early-onset bone marrow failure. It allowed for the pregnancy to occur where the baby was not only unaffected by the disease but also to be a stem cell donor so that the affected sibling was cured, Dr. Rosenwaks said.

In 2002, Dr. Verlinsky supervised the genetic testing of a 30-year-old woman who was likely to develop a rare form of Alzheimer’s disease before she turned 40. Her baby was spared that fate because she had been screened as an embryo before being implanted in the womb.

The case was a medical milestone, the first use of genetic testing to prevent an early onset form of Alzheimer’s. But some ethicists found it disturbing because the mother would probably become unable to take care of her daughter, who would witness her deterioration and death.

Dr. Verlinsky said he had no qualms about helping the woman. It’s totally up to the patient, he said, pointing out that many children are brought up by single parents and that the couple had considered the decision for months.

Dr. Andrew La Barbera, the scientific director for the American Society for Reproductive Medicine, said Tuesday that Dr. Verlinsky had had a far-reaching impact on reproductive medicine.

Verlinsky was a giant in the field because he transformed P.G.D. into a routine procedure that has enabled innumerable couples to conceive children free of genetic disease, Dr. La Barbera said. He made it available to clinics around the world.

In 1990, Dr. Verlinsky founded the Reproductive Genetics Institute in Chicago and started a system for gathering embryo biopsy specimens from clinics in many countries and for providing test results within a day or two.

Born in Siberia on Sept. 1, 1943, Yury Verlinsky was one of two sons of Simon and Dora Verlinsky. His mother was an accountant; his father was a disabled veteran of the Soviet army. Dr. Verlinsky received his Ph.D. in embryology and cytogenetics from Kharkov University in 1973. While there, he met Luba Maron, a biologist; they married in 1967. Besides his wife and his son, he is survived by his brother, Vitaly, and three grandchildren.

Soon after receiving his Ph.D., Dr. Verlinsky began work in a government clinic. His research proposals were rejected by a committee. The Verlinkskys emigrated to the United States in 1979, a fortunate move for reproductive technology.

Dr. Jamie Grifo, the program director at the New York University Fertility Center, said, If it wasn’t for Yury, who knows how far this field would have come?

This article has been revised to reflect the following correction:

Correction: July 25, 2009
An obituary on Thursday about Yury Verlinsky, an expert in embryonic screening, misstated the date of his death. It was July 16, not June 16.

A version of this article appeared in print on July 23, 2009, on page B10 of the New York edition.