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June 11, 2005, 11:33PM

Top cloning pioneer here for stem-cell conference

South Korean will urge research into customized tissue for patients

By TODD ACKERMAN

Science's hottest figure comes to Houston today, three weeks after his headline-making achievement reframed the debate over one of the world's most controversial issues.

South Korean researcher Woo Suk Hwang will tell a gathering of scientists and other advocates of stem-cell research at Baylor College of Medicine how he made nearly a dozen cloned human embryos that are genetic twins of diseased patients.

The achievement brings scientists closer to what many say is the future of medicine, where doctors treat heart patients with customized heart tissue, diabetics with insulin-producing pancreatic tissue and a host of other diseases with genetically tailored spare parts.

Detractors say it also brings society closer to that slippery slope where human life is created to harvest spare parts and where some rogue doctor one day might even clone a human baby.

In any event, Hwang's breakthrough made one thing clearer: Stem-cell science isn't just about deriving utilitarian benefit from leftover embryos discarded by fertility clinics. It's also about creating new embryos whose stem cells have even greater medical potential, known as therapeutic cloning.

"It's fair to say that Hwang's breakthrough should change the discussion considerably," said University of Pennsylvania bioethicist Art Caplan. "People on both sides haven't always

been honest and forthright about the distinction between the two types of stem cells and the issues they raise. This may change that."

Delicate timing

The Houston summit comes at a particularly delicate time in the debate.

One bill in Congress calls for expanded federal funding on "spare" embryos and another would ban cloning, both reproductive and therapeutic.

President Bush has threatened to veto the bill to loosen the restrictions he imposed and recently added that "I worry about a world in which cloning would be acceptable."

In Texas, where pro- and anti-stem cell science bills died in the last legislative session, Gov. Rick Perry said it was "fine with me" if another state takes the lead role in such research.

Indeed, the summit at Baylor is not so much a science conference as a chance to plot strategy to advance the stem-cell movement's agenda. With the exception of Hwang's session and one other, the themes concern public perception and effective advocacy.

"This is the launch of the pro-cures movement," said Bernard Siegel, executive director of the Florida-based Genetics Policy Institute, sponsor of the meeting. "For the first time, we're bringing in all the stakeholders — scientists and business and patient group leaders — to discuss how best to remove the bottlenecks that stand in the way of stem-cell research. The stakes are too high to continue sitting back."

Siegel said they chose Baylor because Texas is one of several states debating limits on stem cell research but also for symbolic reasons — because Baylor was one of the first places to pioneer organ transplants.

Famed heart surgeon Dr. Michael DeBakey will kick off the conference this morning with remarks on the new field's potential.

The star is clearly Hwang, now such a folk hero in South Korea that an entourage of media follows him wherever he goes. He was scheduled to arrive in Houston at 5:40 a.m. today, fresh from speaking in Brazil.

In 2004, Hwang made the first cloned embryo, a huge landmark.

But the process was inefficient, requiring almost 250 human eggs extracted from female donors to get just one cloned embryo, and no one else seemed able to duplicate it.

On May 20, however, Hwang reported considerable progress. His team needed only 17 eggs on average to make each batch of stem cells, undercutting criticism that the research will require too many donated eggs to be practical.

They also created stem-cell lines from patients with juvenile diabetes and an inherited blood disorder, suggesting scientists one day will be able to produce customized tissue unlikely to be rejected by a patient's immune system.

Not great to some

"That's the greatness of Dr. Hwang's discovery," said Gerald Schatten, a reproductive scientist with the University of Pittsburgh School of Medicine and the only U.S. member of Hwang's team. "Imagine what we'll be able to find in the embryonic cell lines of people with diseases we have little understanding of, such as autism."

It is not of great importance to opponents like Richard Doerflinger, director of anti-abortion activities for the United States Conference of Catholic Bishops, who notes that for all the attention accorded stem-cell research, the science is still decades from treatment.

Hwang is making plans to open a world stem cell bank in South Korea by the end of the year to help speed up the quest to grow patients' own replacement tissue.

Hwang will be joined on today's summit panel by Schatten, who helped interpret study data and did the writing for publication in an English-language journal. On Sunday, Baylor scientist William Brinkley will wrap up the meeting.

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