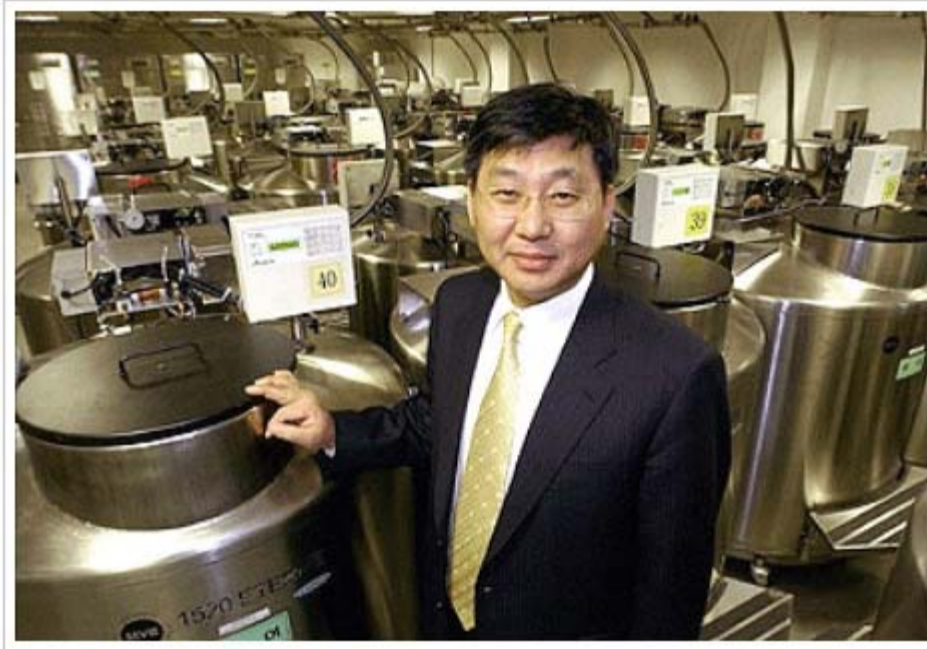


□ AFP (2005.03.22)

'Seoul blood bank freezes assets for breakthrough cell therapy'



Han Hoon, head of Seoul Cord Bank operated by Histostem, stands next to rows of storage tanks containing cord blood. Han pioneered cord blood stem cell therapies to treat difficult diseases. (AFP/Jung Yeon-Je)

SEOUL (AFP) - Han Hoon, a stem cell therapy pioneer, sweeps back his arm to show off rows of storage tanks that fill the basement of his office building in South Korea's capital.

"Awesome, isn't it," says Han of the 42 gleaming cylinders each measuring 1.5 meters high and 1.2 meters wide where blood from the umbilical cords of 60,000 new-born babies is stored.

"What you are looking at is the world's largest inventory of cord blood units kept in one place," says Han, head of the medical research firm Histostem.

Han says the tanks kept frozen at minus 196 centigrade degree (minus 378 Fahrenheit) contain 1.5 tonnes of umbilical cord blood, 12 percent of the world's total inventory accumulated over five years.

Umbilical cord blood is a source of stem cells, which can morph into specialized body cells and help regenerate damaged organs. Researchers see stem cells holding the key to cures for diabetes, cancer, Alzheimer's disease and other disorders. Han, 51, extracted stem cells from cord blood for the first time in 2003 and has used them in the treatment of more than 200 patients suffering from 17 different diseases.

Success rates vary according to the disease being treated but some 70 percent of patients suffering from diabetes mellitus and 60 percent with liver cirrhosis showed improvement after stem cell treatment, Han says.

Han and his colleagues made headlines in November last year when their patient Hwang Mi-Soon, 37, who had been unable to walk since damaging her spine in an accident two decades earlier, was shown at a press conference taking a few cautious steps with the help of a walking frame.

It was the world's first published case in which a patient with spinal cord injuries had been treated successfully with stem cells from cord blood, Han says.

Hwang remains a patient and says she is making progress, although she still needs leg braces and a frame to walk.

Following the report on the landmark treatment of Hwang, there has been a rush of unsolicited patients from many parts of the world seeking help from Han, most of them suffering from spinal cord injury.

"There are many who are willing to pay anything for the treatment," Han says.

"I tell them to send us their blood samples or gene testing results. After that, we browse collated pools of cord blood to select compatible cells, find multipotent stem cells, isolate and culture them for injection."

Treatment is not cheap. Stem cell therapy for spinal cord injury costs around 100,000 dollars, he says.

Han collected his blood bank by striking a deal with pregnant women who are asked to donate the cord blood when they give birth in return for a guarantee of free stem cell treatment for five years for the baby, if needed. To extend the guarantee for 10 years, they pay a premium of 270,000 won (268 dollars).

Han acknowledges that umbilical cord blood is not the only source of stem cells. They are also found in human embryos, bone marrow and other body parts.

But he says blood is the best because it carries none of the ethical questions associated with using human embryos for medical treatment and is easier to use and more flexible and effective than bone marrow cells.

Technical difficulties exist in isolating stem cells from frozen umbilical cord blood, finding cells with genes matching those of the recipient and selecting the right place in the body to deliver the cells, he says.

Han, a medical doctor with expertise in both immune genetics and bone marrow transplantations, says his ample stockpiles of cord blood in South Korea provide a fertile soil for experiments on new techniques and treatments.

Han's company carried out 23 stem cell treatments last year and is planning to open a hospital exclusively for the therapy later this year.

"Histostem will expand cell therapies from selected diseases such as spine cord injury, Lou Gehrig's disease (amyotrophic lateral sclerosis -- ALS), liver cirrhosis, diabetes mellitus to include other diseases," Han said.

"We plan to open the hospital by the end of this year or early next year at the latest. The hospital will be the world's first entirely devoted to stem cell therapies," Han says.

"The hospital will initially have 100 beds but will be expanded to 300 afterwards."

His company is financially strong, posting a net profit of 1.5 billion won (1.5 million dollars) on sales of six billion won last year.

Han says he expects an even better performance this years and plans to go public on the Korea stock exchange after that.

"We seek to list in the tech-heavy Kosdaq by early next year," Han said.



A research worker checks a control panel of a storage tank containing cord blood at a storeroom of Cord Bank in Seoul. Han Hoon, head of Seoul Cord Bank, pioneered cord blood stem cell therapies to treat difficult diseases.(AFP/Jung Yeon-Je)



A worker walks past rows of storage tanks containing cord blood in a storeroom of Cord Bank in Seoul. The storage tanks represent the world's largest inventory of cord blood, containing more than 60,000 units. (AFP/Jung Yeon-Je)



A worker checks a storage tank containing cord blood at a storeroom of Cord Bank in Seoul. The storage tanks represent the world's largest inventory of cord blood, containing more than 60,000 units. (AFP/Jung Yeon-Je)

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