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Rome hospital's adult stem cell bank seeking to offer ethical alternative

By Patrick Goodenough
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LONDON (BP)--A Roman Catholic medical institution in Rome is launching a placenta and umbilical cord bank to provide stem cells for medical purposes, the Internet news site CNSNews.com reported Jan. 4. The initiative will offer an ethical alternative to using fertilized human eggs for medical research.

The initiative is a direct response to recent moves to legalize the use of embryos for medical research. Pro-life organizations, including the Vatican, have come out strongly against the use of embryos as sources of stem cells. They question the ethics of harvesting an early stage human being for stem cells, then destroying it.

Scientists believe that stem cells, the building blocks of muscle, blood and other tissues, have the potential to grow tissue to replace parts of the body damaged by injury or by diseases such as leukemia or Alzheimer's.

British lawmakers in December voted in favor of allowing specialists to harvest embryos up to 14 days old for stem cells, and also to clone embryos in a laboratory for the same purpose. Some scientists feel cloned embryos will produce the best tissues, offering a perfect match for the patient whose genetic material was used in the cloning process.

Opponents say it is unnecessary to use embryos, as new evidence suggests that "adult" stem cells, from sources such as placentas and umbilical cords, may offer comparable possibilities.

The Catholic University of Rome set a launch date of Jan. 1 for opening its placenta and umbilical cord bank, although it will take several more weeks until everything is up and running.

Explaining the project, the director of the university's Institute of Gynecology, Salvatore Mancuso, said by telephone from Rome that mothers who deliver their babies at the department will be invited to donate the placenta and umbilical cord, which are usually discarded.

The material will then be "cryo-preserved" (frozen and stored), with the aim being to accumulate as large a collection as possible and to provide a future source of stem cells, available at short notice when needed.

"We believe there will be a future increasing use of stem cells for treating a number of metabolic or genetic diseases. While the scientific research is progressing we feel it is a good idea [to collect and store the material]," Mancuso told CNSNews.com.

The larger the number of samples in stock, the better the probability of finding a suitable match for a particular recipient, he said.

In the meantime the samples also will be available for use by a network for bone marrow transplants, or the treatment of leukemia and tumors.

Mancuso said it is hoped other private and public hospitals in the city and the region also would participate.

"We hope that this activity will be repeated by other institutions in the country and in Europe," he said.

Placenta banks for bone marrow transplantation do exist elsewhere, but this is thought to be the first where the institution rather than individuals will cover the costs and where the motivation is primarily an ethical one. Mancuso said funding also would come from government and private organizations.

Apart from outright donations, women will be offered the alternative of having their babies' umbilical cords and placentas stored for later possible use by their own family members, in which case they will be asked to contribute to the costs.

"It is possible that a baby born in January 2001 may need in 15 or 20 years' time his own stem cells for curing some metabolic disease."

By that time, Mancuso said, he was confident stem cell research would have advanced to a point where this would be possible.

"Since the procedure does not give ethical problems, the Vatican is in favor of this," he added.

Mancuso told CNSNews.com the institute had for years already been using the "autonomous transplantation of stem cells" in the treatment of advanced tumors in the ovaries and breasts.

Chemotherapy destroys not only tumor cells but healthy white blood cells, he explained. The patients' own stored stem cells are then reintroduced, "and in a short time the bone marrow will be again colonized and the number of blood cells restored."

Archbishop Elio Sgreccia, vice president of the Pontifical Academy for Life, has expressed the view that not only is the use of adult stem cells ethical, it is also potentially more effective than the use of embryos.

"Research rewards the use of stem cells extracted from the umbilical cord and proves that it is not necessary to sacrifice embryos," he told the newspaper Il Giornale late last year.

The British parliament decision drew a strong response from Sgreccia, who called it a "criminal act, catastrophic for the future of humanity."

"To legitimize the suppression of human beings, our own children, for the purpose of experimentation represents a trauma for humanity never seen before," he said, dismissing the notion that embryos younger than 14 days old were not human beings.

Michael Jarmulowicz of the UK Guild of Catholic Doctors said Jan. 4 the organization was in principle supportive of the Rome project.

It would be good to see something similar set up in Britain, he said, "although obviously you'd want people who are expert in their fields who will do proper work. If there are those people, then I'd love them to have access to that sort of thing.

"It is ethically acceptable, if we can produce the same results [as with embryonic stem cells] -- although we don't know if

any of it will work -- but until you've done it you can't say it won't work," Jarmulowicz said.

The U.S. publication Science has named research demonstrating the potential of adult stem cells as the fifth most important scientific advance of 2000.

Studies over the past year, it said, had proven false earlier assumptions that adult stem cells could not be reprogrammed into other types of cells.
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