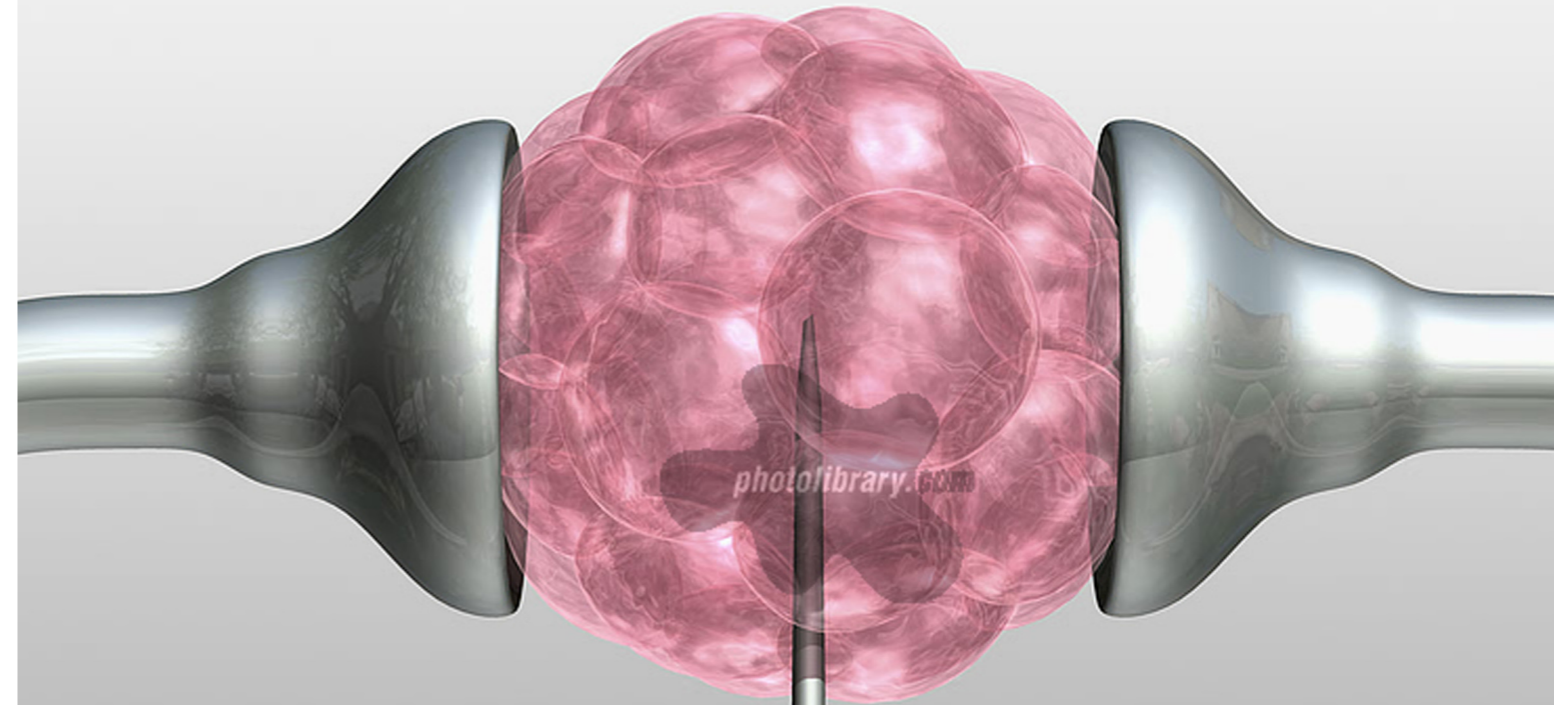




Life

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Stem of the Matter

STEM CELL RESEARCH AND PRESERVATION AUGUR HOPE FOR MANY LIVES BLIGHTED BY DISEASES DEEMED INCURABLE AS ON DATE, WHILE STILL STRUGGLING TO ASSUAGE ETHICAL CONCERNS. SPRIHA SRIVASTAVA EXPLORES THE POSSIBILITIES...





SOLD ON THE CELL?

A survey by Indian Council for Market Research across the cities of Delhi, Mumbai, Kolkata, Bangalore and Chennai

Q. Are you aware about Stem Cell Preservation?

a) Yes - 13% b) No - 87%

Q. If you were told that preserving your stem cell can be useful for your child in the future and can help in curing various diseases, would you invest in preserving the stem cell?

a) Definitely - 63% b) Depends on the charges - 23%
c) No - 5% d) Don't Know - 9%

Q. Do you think that there should be more awareness by means of commercial and print ads about such medical researches?

a) Yes - 94% b) Not necessary - 6%



“FINDING A DONOR IS THE TOUGHEST JOB SINCE THERE IS ONLY A 90% PROBABILITY OF FINDING THE RIGHT MATCH”

Barack Obama's election to the White House was indeed a historical event celebrated not only in the United States, but across the world. And in his first 100 days as President, he did enough to evince his commitment to the 'Change' agenda - from gay rights to torture memos. For the scientific community too, there was vindication to be heard when he decreed to lift the (Bush-imposed) ban on federal funding for embryonic stem cell research.

Stem cell studies represent a whole new gateway for biomedical research with the potential of treatments for medical mind-bogglers like cancer, Alzheimer's, diabetes, cardiac troubles etc. using embryonic stem cells that are capable of transmuting into any other cell of the body. Embryonic stem cells are derived from days-old embryo,

which is what makes it yet another bone of contention between pro and anti-lifers, like abortion. Adult stem cells on the other hand are undifferentiated cells obtained from organs and tissues. "The controversy was actually around embryonic stem cell studies because they involve the destruction of human embryos. A key benefit of adult stem cells is that they are non-controversial (given the ethical debate around embryonic stem cells), since they do not use fertilised embryo," informed Ryan Smith, Associate Director, Marketing at Cryo-Cell (organisation for stem cell research and preservation). "There have been groundbreaking discoveries in adult stem cell research that are bringing us closer to identifying treatments for a number of life-threatening diseases and conditions," Ryan added. Embry-

onic stem cell research had, of course, to contend with ethical appropriateness at every step, despite scientists crying themselves hoarse about embryos used being those fertilised in-vitro (i.e. in laboratory conditions) and with the full consent of volunteers.

Heredity-based and degenerative diseases continue to sap the resources, and faith, of many a family in the world, in a bid to sustain the life of a loved one. "I've seen the difficulty that one goes through for bone marrow transplantation. Finding a donor is the toughest job since there is only 90 per cent probability of finding the

right match," testifies Mayur Abhaya, Executive Director, Life Cell International (stem cell banking and stem cell solutions provider in India). In the face of such dire struggles for survival, stem cell preservation can be greatly redeeming.

The preservation of stem cells is a risk-free and painless procedure. The umbilical cord is detached from the mother's body after childbirth and the ('adult') stem cells are processed and stored within the next 48 hours. "Stem cells can be stored for decades together. But we conduct a study every year to check on the amount of degeneration. We offer its stor-

age for 20 years. When the child turns 21, he/she can decide to continue or discontinue the preservation," explains Mayur Abhaya. Then again, considering a majority visitation of the diseases is reserved for the old and the infirm, it would be a good idea to stick to the 'investment,' like any other. Awareness of this concept in the West is far greater than that anywhere else, least of all, India (See survey 'Sold on the Cell?'). "People in the United States are aware of stem cell banking and are choosing to invest in their family's future health," said Ryan and further explained, "Cells taken from cord blood are a guaranteed

match for the baby; they also have at least a one in four chance of matching a sibling and may also be useful for other family members." In recent years, there has been a positive trend in the amount of preservations and also the number of beneficiaries. Mayur shares that "40 per cent of women who give birth opt for stem cell preservation and now we have about 5000-6000 enrolments in a year - a sharp increase over the previous years." These are statistics for one out of ten such centres

in India, but as Mayur reinforces, "We still have a long way to go to make it a household discussion."

Richa Dayal did not take long to be convinced of the miraculous potential of stored stem cells. Much before the birth of her first baby, a glance at a pamphlet on stem cell banking had triggered her research. Choosing not to ignore it as just some more science spiel, Richa and her husband delved in to find out more. "Such a thing was very new to us and we obviously had our share of inhibitions. But we decided to speak to people from stem cell banks and learn about the procedure

and the benefits." The couple eventually decided in favour of stem cell preservation for the healthy future of their baby. "It's quite expensive, but EMI options are available. The initial charges are for 21 years, after which another set of payment will have to be made if one chooses to continue," Richa elaborated.

The amendment and authorisation of stem cell research will, Ryan Smith affirms, "potentially expedite the work and discoveries of scientists worldwide. The floodgates are now open for research that may one day improve our understanding and treatment of several diseases." And even on that day, our ethical and moral concerns would not have been in vain...