

**LifeCell – Daily News Update**

**October 5, 2009**

**Key Industry News:**

Publication	wpbf.com
Headline	<a href="#"><u>Stem Cell Therapy Gives Delray Beach Man New Hope</u></a>
Gist of the article	<p>A Delray Beach man who nearly drowned in a swimming accident has a new lease on life thanks to stem cell therapy.</p> <p>David Aldrich depends on a wheelchair and his speech is slurred. Aldrich suffered serious injuries after a swimming accident in 2002.</p> <p>Aldrich said he dove off the back of a boat that was anchored in shallow water and hit his head. When he wasn't pulled out soon enough, Aldrich stopped breathing and nearly drowned. Doctors placed Aldrich in a medically-induced coma.</p> <p>When he woke up months later, Aldrich was on a ventilator, paralyzed from the chest down. He was also 100 percent blind. Local doctors recommended that he fly to China for stem cell therapies, which are illegal in the U.S.</p> <p>The stem cell therapies included the implantation of cells which were harvested from a placenta after the birth of a baby. "While I was there, the third week, things started to come more into view," Aldrich said. "I started being able to read things."</p> <p>Aldrich said his breathing, speech and limb control all improved. National Geographic also followed his progress in a documentary called "Supercell." Aldrich encouraged the use of stem cell therapies in the country.</p> <p>"There are so many people who suffer with diseases and spinal cord injuries that could be helped with stem cells," he said.</p> <p>Aldrich has made two trips to China, and he said his vision is even better. In addition, he can now lean forward, whereas before the therapy he could only shrug his shoulders. He can also move his arms and legs and wiggle his toes. He said he can enjoy many activities that he used to take for granted.</p> <p>"Being able to take my dog out for a walk everyday is the best part of my life," he said. Although water once almost killed him, it has now become a part of his treatment regimen. Aldrich participates in aqua therapy and walks the length of a swimming pool regularly. He said his therapy in China has helped him enjoy his present and makes him optimistic about the</p>

	<p>future.</p> <p>"Just the independence, the quality of life and the hope that there is a cure out there," Aldrich said when asked what he looks forward to the most.</p>
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Publication	<b>medindia.net</b>
Headline	<a href="#"><u>People With Retinal Degeneration may Benefit from Human Embryonic Stem Cell Therapy</u></a>
Gist of the article	<p>Cells derived from human embryonic stem cells (hESCs) have been used to reverse retinal degeneration in an animal model. This news offers new hope that a cure for the devastating eye disease may be available in the near future.</p> <p>In their laboratory, Dr. Benjamin Reubinoff, Dr. Eyal Banin, and their colleagues from Hadassah-Hebrew University Medical Center in Jerusalem developed conditions to guide hESCs to differentiate into functional cells that resembled the retinal pigment epithelium (RPE).</p> <p>The researchers described RPE as a layer of pigmented cells sandwiched between the visual retinal cells, called photoreceptors, and the nourishing blood vessels at the back of the eye.</p> <p>They found that nicotinamide (vitamin B3, NIC) and Activin A, an important growth factor, promoted differentiation of hESCs towards an RPE fate.</p> <p>According to them, the hESC-derived cells exhibited the defining characteristics associated with RPE. When the researchers transplanted them into an animal model of retinal degeneration, the cells rescued the retina.</p> <p>"Our findings are an important step towards the potential future use of hESCs to replenish RPE in blinding diseases," concludes Dr. Banin. A research article describing the study has been published in the journal Cell Stem Cell.</p>

Publication	<b>ptinews.com</b>
Headline	<a href="#"><u>Govt to use stem cell therapy to treat diabetics</u></a>
Gist of the article	<p>The government is contemplating the use of stem cells for treatment of diabetes especially for rural citizens of the country.</p> <p>"Stem cells can now be grown and transferred into specialised medical therapies and this can be an answer to diabetes treatment," Union health and family welfare minister Ghulam Nabi Azad today said.</p> <p>Azad, while speaking at a diabetes conference in the national capital said, it is important to take care of the rural population and help them to keep a check on the growing menace of the lifestyle disease.</p>

	"We are formulating a scheme to facilitate mandatory check up of the rural population above the age of 40 years for diabetes... if diabetes cases could be easily detected and awareness created among them about its implications, then a substantial dent can be made to this disease," he said.
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Publication	<b>Google.com</b>
Headline	<a href="#"><u>Stem cell pioneers among Nobel Prize candidates</u></a>
Gist of the article	<p>Two Canadian scientists whose discovery of stem cells has paved the way for controversial research could be candidates for the 2009 Nobel Prize in medicine, the winners of which will be announced Monday.</p> <p>Ernest McCulloch and James Till won the prestigious Lasker Award in 2005 and experts say they could also be among the front-runners for a Nobel for their early 1970's identification of the regenerative cells. Many winners of the Lasker Award — often dubbed "America's Nobel" — go on to win Nobel Prizes.</p> <p>Given their special abilities, stem cells offer the possibility to replace damaged cells, tissues and maybe organs to treat diseases such as Alzheimer's, heart disease, diabetes, or rheumatoid arthritis.</p> <p>Growing stem cells from human eggs has long been a controversial issue, but in a recent breakthrough scientists have managed to avoid the ethical quandaries by making human stem cells from ordinary skin cells.</p> <p>Science writer Karin Bojs of Swedish daily Dagens Nyheter, who has stood out as a leading Nobel guesser over the years, included Till and McCulloch among her candidates for the prize this year.</p> <p>Other potential winners include long-standing U.S. hopefuls Elizabeth Blackburn, Carol Greider and Jack Szostak for their enzyme research. The trio's discovery of the telomerase enzyme set the stage for research suggesting that cancer cells use telomerase to sustain their uncontrolled growth.</p> <p>However, Bojs pointed out they could also be up for the Nobel Prize in chemistry because the line of distinction between the two awards is sometimes blurry.</p> <p>As usual, the tightlipped award committee is giving no hints about who is in the running before presenting its decision in a news conference at Stockholm's Karolinska institute.</p> <p>The prize announcement is the first of six prizes focusing on medicine, physics, chemistry, economics, literature and the Peace Prize that will be announced through Oct. 12.</p> <p>Alfred Nobel, the Swede who invented dynamite, established the prizes in his will in the categories of medicine, physics, chemistry, literature and</p>

	<p>peace. The economics prize is technically not a Nobel but a 1968 creation of Sweden's central bank.</p> <p>Nobel left few instructions on how to select winners, but medicine winners are typically awarded for a specific breakthrough rather than a body of research.</p> <p>Goran K. Hansson, new secretary of the medicine prize committee, said the 10 million kronor (\$1.4 million) prize isn't necessarily awarded for discoveries that have already resulted in new medicines or other practical applications.</p> <p>"The Nobel committee has often awarded discoveries long before they have come to practical use," he told The Associated Press. "It is gratifying and very positive if there are applications within medical care but it is the actual discovery that is being awarded."</p> <p>He also said the committee doesn't consider the ethical implications of discoveries. "We are awarding the discoveries and not the application and therefore those issues aren't of importance," he said, adding it is a very difficult job to pick a winner. "There are so many beautiful discoveries made today that it is a delicate task to chose the most important."</p>
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Publication	<b><a href="http://independent.co.uk">independent.co.uk</a></b>
Headline	<b><a href="#">Vital embryo research driven out of Britain</a></b>
Gist of the article	<p>All research involving the controversial creation of animal-human "hybrid" embryos has been refused funding in Britain and one of the three scientists licensed to carry out the work has left the UK for a job in Australia.</p> <p>Every one of the three projects to develop embryonic stem cells from cloned embryos created by fusing human cells with animal eggs has now been abandoned, after publicly-funded research councils refused to back the studies aimed at developing new treatments for incurable illnesses ranging from heart disease to Parkinson's.</p> <p>Two of the projects fizzled out earlier this year and the third is now understood to have ended after a funding application was aborted and the research licence issued by the Human Fertilisation and Embryology Authority (HFEA) expired in July without being renewed, The Independent has learned.</p> <p>The news is a blow to those who lobbied intensively last year for a change to the law that would allow the creation of hybrid embryos for research purposes. The new Human Fertilisation and Embryology Act, which came into force this month, was specifically amended to permit the creation of cloned embryos from human cells mixed with the eggs of either cows, pigs,</p>

sheep or other animals.

When the issue was debated in Parliament, many leading scientists, including the heads of the funding councils, warned that it would be a travesty if this kind of research was banned in Britain. It now appears that their own research committees have dismissed the grant applications from all three licence holders as not worth funding.

Although the work was not specifically allowed under the old 1990 Act, it was permitted under licence by the HFEA.

Professor Justin St John of Warwick University, who held one of the three HFEA licences for research involving the cloning of human-animal hybrid embryos, has resigned from his post as head of reproductive biology and is due to fly to Australia today to take up a position at Monash University, which is renowned for its work in the field of embryonic stem cells.

Professor St John refused to answer questions on the reasons for his departure but it is understood he is disillusioned with the funding environment in Britain and the amount of bureaucracy involved in getting ethical approval for this kind of work. In a statement he said: "I am moving to Monash University in Melbourne because it's a world-class university for the study of reproduction, development and stem cells and they have offered me a job."

However, when he was interviewed by The Independent in January just prior to submitting his funding application for creating animal-human hybrid embryos, Professor St John was asked about the refusal to fund the other two hybrid-embryo projects. "Some people will be extremely happy about that," he said.

Asked whether he thought there were people on the funding committees of the research councils who were morally opposed to this work, Professor St John said he had not submitted a funding application at that stage and was not in a position to comment.

"I haven't had back a set of reviewers' comments so I can't make a valued judgement as to whether it's for real scientific reason ... or whether the funding councils just don't want to fund this work," he said.

The heads of the two research councils responsible for funding work into animal-human hybrid embryos reacted angrily this year to suggestions that members of the funding committees morally opposed to this type of work may be influencing a decision on whether it should receive public money.

Sir Leszek Borysiewicz, the chief executive of the Medical Research Council, which turned down one of the three licence holders, said that the peer-review system of assessing funding applications "rules out the possibility of a personal moral view influencing the final outcome of a proposal".

Colin Miles, head of systems biology at the Biotechnology and Biological Sciences Research Council, which turned down another licence holder, said: "Having an HFEA licence to conduct a certain type of research does not automatically entitle researchers to funding. They must still compete for funding based on scientific excellence and strategic impact and the potential of the project to add significantly to the body of knowledge in that area."

The two other HFEA licence holders for research into animal-human hybrid embryos were Professor Stephen Minger of King's College London, who has left the university to work in industry and whose licence has now expired, and Lyle Armstrong of Newcastle University, who created 278 hybrid embryos from human cells and cow eggs before abandoning the work at Newcastle through lack of funds. He now works in Spain.

Professor St John's application was to create lines of embryonic stem cells from hybrid embryos created by fusing the egg cells of pigs with human cells from patients suffering from a disease of the heart muscle. He had already carried out extensive work on generating mouse-pig hybrid embryos, funded by the Medical Research Council.

Last year, leading scientists, politicians and commentators applauded Parliament for passing the Human Fertilisation and Embryology Bill, which was supported by both Gordon Brown and David Cameron and allowed creation of animal-human "admixed" embryos for stem-cell research.