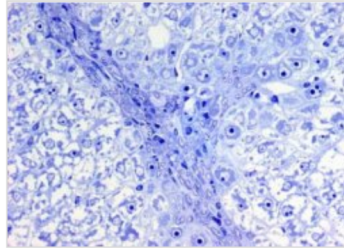




HOME COMMUNITY NEWS VIDEO IMAGES SPACE SCIENCE TECH HEALTH EDUCATION TOPICS SHOP SITEMAP

Space Science Technology Health General Sci-fi & Gaming Oddities International Business Politics Education Entertainment Sports

E-mail Print Comment Font Size Digg del.icio.us Discuss article Buzz up! Stumble It!



[Download full size image](#)

Stem Cell Use In Regenerative Medicine May Also Be Bad For Health

Posted on: Friday, 13 November 2009, 07:51 CST

The use of stem cells in regenerative medicine is not always beneficial for human health, it may even be harmful according to a work done by the University of Granada and University of León. Scientists have demonstrated that transplantation of human mononuclear cells isolated from umbilical cord blood exerted a deleterious effect in rats with liver cirrhosis.

Researchers aimed to investigate whether the mononuclear cell fraction of human cord blood (HUCBM cells), which contains stem cells, might be useful in hepatic regenerative medicine. Both histological and biochemical findings obtained in this research suggest that cell transplantation did not improve the health of sick animals but it induced a hepatorenal syndrome instead.

The authors of this work are Ana I Álvarez-Mercado, María V García-Mediavilla, Sonia Sánchez-Campos, Francisco Abadía, María J Sáez-Lara, María Cabello-Donayre, Ángel Gil, Javier González-Gallego and Luis Fontana, researchers from the University of Granada and University of León.

Research in rats

In order to evaluate the regenerative potential of HUCBM cells, researchers carried out a human-to-rat xenograft. First, liver cirrhosis was induced to rats by administration of 0.3 g/L thioacetamide (TAA) in drinking water throughout 4 months. Later on, ten million HUCBM cells were injected through the portal vein. A similar transplantation experiment was done in control rats, i. e., rats that drank water, not TAA.

TAA induced nodular cirrhosis to animals. Cell therapy did not have any effect on hepatic histology, but analysis of biochemical parameters revealed that cirrhotic rats subjected to transplantation exhibited alterations in liver function (lower albumin concentration and higher bilirubin concentration in plasma compared to cirrhotic rats that did not receive HUCBM cells). Also, the group with cirrhosis that received HUCBM cells showed renal damage.

Nowadays, approximately 17% of the world population is affected by liver diseases. There is to date no specific treatment for the liver fibrosis that develops in chronic hepatic diseases, and patients receive treatment for its associated complications. In addition, the current therapy for end-stage hepatic disease, whole liver transplantation, is limited by the shortage of organ donors. Accordingly, novel therapies, such as the use of cord blood stem cells, are required to alleviate the suffering of many patients. This work, however, highlights the need of further research in the area of hepatic regenerative medicine.

The work has been funded by Fondo de Investigación Sanitaria (Instituto de Salud Carlos III), FEDER, Consejería de Innovación, Ciencia y Empresa (Junta de Andalucía), Consejería de Sanidad (Junta de Castilla y León), and Federación de Cajas de Ahorro de Castilla y León. It will appear in the November issue of the journal Cell Transplantation.

Image Caption: This is a microscope view of the cirrhotic liver of a rat. Credit: University of Granada

On the Net:

[University of Granada](#)
[Cell Transplantation](#)

[More News in this Category](#)


Related Articles

[Extending Treatment After Liver Transplant May Benefit Patients With Hepatitis C Recurrence](#)
[Keeping Hepatitis C At Bay After Liver Transplant](#)
[Hard To Treat Diseases \(HTDS.PK\) Stem Cells and Regenerative Medicine](#)
[Stem Cells in Regenerative Medicine 2008 Market Report Focuses on the Various Clinical Applications of Different Types of Stem Cells](#)
[Hepatitis C Gone After Liver Transplant](#)
[New Study Shows That Stem Cell Transplantation May Improve Quality of Life in Patients With Liver Disease](#)

Nov 15, 2009, 7:10 am

 [Research Shows Fitness Levels Drop Off After Age 45](#)


Nov 15, 2009, 6:11 am

 [A Woman Fakes Breast Cancer for Breast Enhancements](#)

Nov 15, 2009, 6:10 am

 [Too Many Late Shifts Can Cause Breast Cancer in Nurses](#)

Nov 15, 2009, 6:09 am

 [Swine Flu Outbreak: Update with Dr. Nancy Snyderman](#)

Nov 14, 2009, 8:22 am

 [Millions of Americans Aren't Getting Enough Sleep](#)

Nov 14, 2009, 8:05 am

 [Flu Fighting Foods](#)

[More Videos](#)

SPONSORED LINKS

DON'T Pay for White Teeth

Learn the trick discovered by a Mom to turn yellow teeth white f or \$5!
www.consumertipsweekly.net

Health Plans From \$50/mo.

Compare Low-Cost Health Plans Online. Blue Cross, Aetna and more.
www.healthinsurancesort....

Free Alaska guide

The ultimate Alaska wilderness deserves the ultimate guide.
www.hollandamerica.com

Refinance at 4.25% FIXED!

No hidden fees-4.4% APR!
No obligation. Get 4 free quotes. No SSN req.
www.LendGo.com

Mortgage Rate 4.00% FIXED

\$200,000 loan for \$771/month. See New Payment - No SSN Rqd. Save Now!
Refinance.LeadSteps.com

[Buy a link here](#)

Related Videos

[Nanotechnologist Creates Liver on a Computer Chip](#)
[Obesity Liver Technology Improves Organ Donation](#)

[Breaking News](#)

[Streaming Video](#)

[Images and Photos](#)

[Space Exploration](#)

[Science and Research](#)

[Technology](#)

[Space](#)
[Science](#)
[Technology](#)
[Health](#)
[Sci-fi & Gaming](#)
[More...](#)

[Top Picks](#)
[Science](#)
[Health](#)
[More...](#)

[Images of the Day](#)
[Image Galleries](#)
[Wallpapers](#)
[More...](#)


[Mars Phoenix Mission](#)
[Astronomy](#)
[Human Spaceflight](#)
[Ask the Astronomer](#)
[More...](#)

[Instruments](#)
[Calculator](#)
[Ask the Scientist](#)
[More...](#)

[Tech Today](#)
[Sites of the day](#)
[More...](#)

[Health](#)
[Health Videos](#)
[More...](#)

[Knowledge Network](#)
[Blogs](#)
[My Weather](#)

[Advertising](#) | [About Us](#) | [Contact Us](#) | [Privacy Statement](#) | [Terms of Service](#) | [Abuse Reporting](#) |  [RSS Feeds](#)
© 2002-2009 redOrbit.com. All rights reserved. All other copyrights remain the property of their respective owners