

Announcing the Arrival of Gene Therapy

It is probably a surgeons dream to be able to replace a defective gene with a functional one to cure inherited diseases. Surgery has evolved remarkably from open surgery to key hole (minimally invasive) and from hands-on to remote controlled robotic arm surgery. The next logical advancement in surgery is presumably "gene transplant surgery". Stem cell therapy may provide a prelude to this gene transplant therapy in near term and in long-term it looks feasible to instill functional genes into a patient's cells through appropriate surgical tools like "gene guns" which use "gene bullets". Earlier attempts of clinical gene therapy raised a lot of hopes and enthusiasm but did not succeed due to undesirable and unexpected side effects. The hopes are being revived by recent triumphs in "gene-drug development" in the last few years. The Chinese made the first entry into "Gene Therapy" by approving in 2004 the first gene-drug Gendicine in 2004 and subsequently Oncorine in 2005 for the treatment of head and neck cancer. The Russians followed suit and late last year launched Neovascugen a gene therapy to deliver vascular endothelial growth factor (VEGF) to treat peripheral arterial disease. The developed world could not stay behind, in November 2012, the European Medicines Agency approved the first gene-drug namely Glybera, for treating a rare genetic deficiency of the enzyme lipoprotein lipase (LPL), a protein that helps breakdown fats. Patients with this disease repeatedly suffer severe pancreatitis attacks and must follow a very restrictive low fat diet. More good news is in the pipeline of genetic engineering. In 2009 researchers in France announced that 2 boys with a fatal genetic brain disease called adrenoleukodystrophy were cured by gene therapy. A research group from the University College of London announced at the end of 2011, the first successful treatment of 4 patients with hemophilia B with an insertion of a functional clotting factor IX gene. In February 2013, scientists at the University of Pennsylvania completed a follow up trial using gene therapy to correct a defective retinal pigment RPE65 gene that causes Leber Congenital Amaurosis (LCA) blindness. This is currently the most advanced gene therapy trial in its 7th year and, barring unexpected results, will likely be first FDA approved gene therapy procedure. We may witness in near future success in gene therapy even to correct more common brain disorders such as Parkinson's and multiple sclerosis.

Gene therapy opens up a completely new and very exciting vista for managing pharmaco genomics. For example, those patients who have inherited defects in drug metabolizing enzymes and those who show poor expression of drug receptors, could be first primed with gene therapy before administering the most potent drugs. This would increase the efficiency and reduce the toxicity. Genetic engineering started in the early 1970s and gave the hope to scientists that a defective gene could be replaced with a functional gene to cure a genetically inherited disease. Medical fraternity's excitement is finally returning after almost 20 years of relentless pursuit and hard work on gene therapy as we have started harvesting the fruits of genetic engineering.

Dr. K. Ravindranath
CMD - Global Hospitals Group

INSIDE



3

Bikeathon on World No Tobacco Day

New Treatments For Liver Diseases. pg 2
Ban on all types of tobacco advertising. . . pg 2
Master Class in Urology. pg 2



4

4th India Leadership Awards

Health Talk at IDBI Capital Markets Ltd. .pg 3
Health Talk on World No tobacco Day . . pg3
Health Talk at BBC News pg 3



4

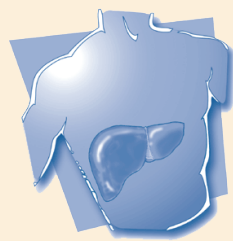
Launch of the Global Cancer Institute

Health Talk at Mumbai port trust pg 3
Health Camp at ITC Limited, Mumbai. . . . pg3
Health Talk at Western Railway pg 3
Know Thyself. pg 4

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An emerging paradigm shift in steroid hormone replacement therapy - New Treatments For Liver Diseases?



Estrogen plays a role in liver functions, and may be a deterrent to liver cancer, as men get this type of cancer at a rate of four-to-six times more than women and animals models of this cancer show clear suppression by estrogen. The hormone also helps suppress the development of fatty liver, which can lead to liver damage and failure, and inflammatory liver disease that result from chronic hepatitis.

By discovering the new mechanism by which estrogen suppresses lipid synthesis in the liver, University of California at Irvine USA, endocrinologists Dr. Ellis Levin and colleagues have revealed (published in Science Signaling) a potential new approach toward treating certain liver diseases.

This finding, will change a long-held views in the field: "The dogma in the steroid receptor field for 50 years has been that only receptors located in the nucleus respond to steroid hormones by regulating genes that produce the developmental, functional and pathological effects of steroid hormones,".

Dr. Levin and his team have shown that an estrogenic receptor compound acting at the cell membrane-based estrogen receptor alpha in the liver of transgenic and wild type mice suppresses all lipid synthesis, including cholesterol, triglycerides and fatty acids.

Thus by selectively boosting estrogen receptors located on the cell membrane as targets for drug candidates suppression of lipid synthesis could be achieved. This may cause a paradigm shift in concepts / strategies of hormone replacement therapy.

Levin said that he and his colleagues are now testing compounds that target the membrane estrogen receptor in transgenic mice to see the impact for such diseases.

Last month, Levin was honored with the 2013 Solomon A. Berson Distinguished Researcher Award and Lectureship from the American Physiological Society, Endocrinology Division. The award is in recognition of Levin's work on estrogen receptors outside the nucleus that mediates important functions of this steroid in breast cancer and the cardiovascular system, and is applicable to many other steroid receptors, including progesterone and androgen receptors in breast and prostate cancer, respectively.

Source: "Study May Point To New Treatments For Liver Diseases." *Medical News Today. MediLexicon, Intl., 28 May. 2013.*



Doctor's Day July 1st 2013

Doctor's day was celebrated with lot of enthusiasm across Global Hospitals Group.

Comprehensive ban on all types of tobacco advertising, promotion and sponsorship stressed

Health experts and on 23rd May 2013 stressed the need for a comprehensive ban of all types of tobacco advertising, promotion and sponsorship in the State. At a press conference held ahead of the World No Tobacco Day (on May 31st), experts mentioned the



national tobacco control legislation (Cigarette and Other Tobacco Products Act - COTPA) the World Health Organization(WHO) framework convention for tobacco control and demanded the State government to strictly enforce ban on tobacco advertising, promotion and sponsorship as the same would be the theme of WNTD for this year

'Embracing life, Staying alive' - Bikeathon organised on occasion of 'World No Tobacco Day'



On 26th May 2013, BGS Global Hospitals organized a Bikeathon to campaign for a tobacco free society as part of its corporate social responsibility – 'Embracing life, Staying alive'. People from various walks of life rode Harley Davidsons' and other superbikes

covering a 17 Km stretch from Queen's Circle, Cubbon Park to BGS Global Hospitals, Uttarahalli Road. Participants displayed placards with messages to create awareness about the ill effects of tobacco consumption and colourful balloons. The aim of the event was to spread awareness and inspire people to take a vow to quit consumption of tobacco. A graffiti arranged by the hospital at the start point bore messages written by the participants, dignitaries as well passersby to quit tobacco. The bikethon was flagged off by Sri V B Patil, Commissioner, Health and Family Welfare, in the presence of Dr. N. K. Venkataramana, Vice-Chairman and Chief Neurosurgeon, BGS Global Hospitals.

Master Class in Urology Global Series 2013(MCUG)

Eminent Kidney Surgeons across India come together in Chennai for an Urology Conclave between 15th -16th June 2013. Global Hospitals Group acknowledged as the world's most comprehensive centre for Urology, Pancreas diseases and Transplantation also



one of the largest Kidney Transplant program in the country. The conference was to update the trends in Urological disorders and the developments in technology and treatment protocols that can be advised, adhered and ensure better quality of life for patients suffering from Urological disorders. The latest techniques will avoid long hospital stay, provide better treatment outcomes and will help to regain a normal life to the patients" says Dr. N. Sezhian, Sr. Consultant, Institute of Urology, Global Health City

Master Class in Gastric Bypass surgery, organised by Global Hospitals, Lakdi-ka-pul, Hyderabad



Global Hospitals Lakdi-ka-pul, Hyderabad had conducted a two day Master Class in Gastric Bypass Surgery on 21st and 22nd June 2013, Organised by Institute of Minimal Access & Bariatric Surgery team, where 15 Eminent Surgeons from all over India practicing Bariatric surgery

has lectured on various aspects of Gastric Bypass Surgery, which is the Gold standard surgery for Morbid Obesity. About 70 Surgeons & Surgeons interested in doing Bariatric surgery participated in the Master class and made it a grand success. All the participants were issued certificates after completion.

Global Health City, Chennai introduces unique Multi-Super Specialty "Organ Specific Cancer Care"

Global Cancer Institute brings most comprehensive multi-super specialty organ specific cancer program with a large team of Organ specific Super Specialists Global Hospitals Group further consolidates its position at the forefront of cancer treatment in India with the launch of Global Cancer Institute at Global Health City

As a landmark development for cancer patients, Global Hospitals Group at its Chennai hospital, Global Health City, today announced the launch of the Global Cancer Institute. The Global Cancer Institute was inaugurated by His Excellency Dr. K. Rosaiah, Honorable Governor



of Tamil Nadu in the presence of Shri. Mike Nithavrianakis, His Excellency, British Deputy High Commissioner, Chennai and Dr. K. Ravindranath, Chairman & Managing Director, Global Hospitals Group.

World's most advanced radiation therapy machine – TrueBeam STx with Tamil Nadu's 1st complete Radio Surgery Application commissioned at Global Health City, pioneering a radical new approach with radiation treatment options for even the most difficult to treat cancers.

Health Talk on "HeadAche" at Global Hospitals, L.B.nagar, Hyderabad



Health Talk on "Headache" was organised at Global Hospitals, L.B. Nagar for general public on 15th June, 2013.

General public from neighborhood actively took part in the one day interactive health talk presented by

Dr. Suresh Reddy, Consultant - Neurologist, Global Hospitals, L.B. Nagar, where the doctor enlightened the audiences on the various types of Headaches and educated them on its causes, prevention & treatment.

Around 150 people were participated in this health talk.

Health Talk at IDBI Capital Markets Ltd, Mumbai



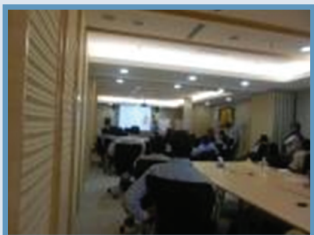
Health Talk on "Lifestyle Management" was conducted on 27th May 2013. Employees were very happy with the session. About 70 employees attended the Health talk, who actively participated in the Q & A session.

Health Talk on occasion of World No tobacco Day

Health Talk on "Effects of Tobacco" was conducted on 31st May 2013 - for the employees of Larsen & Toubro Ltd, Mumbai. The talk was presented by Dr. Sagar Galwankar followed by Q&A session, where all queries were answered. At the end of the talk a pledge was taken by the employees to quit tobacco



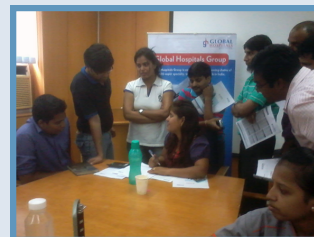
Health Talk at BBC News, Mumbai



Health Talk on "Stress Management" was conducted on 31st May 2013. Employees showed high interest in the session. The talk was presented by Dr. Hozefa Bhinderwala followed by Q&A session, where all queries were answered.

Global Hospitals, Mumbai conducts Health Camp

Free medical health check-up camp was conducted for the employees of ITC Limited on 1st June 2013. The General Health Screening Camp included tests like Random Blood Sugar, Blood Pressure, BMI & consultation with Dr. Lakshmikant. Around 60+ employees were screened.



Health Talk at Western Railway, Mumbai



Health Talk on "Healthy Heart" was conducted on 12th June 2013. The talk was presented by Dr. Pravin Kulkarni, Interventional Cardiologist followed by Q&A session. Western railway, Lower parcel dispensary registered more than 1000 patients with Hypertension & diabetics.

Global Hospitals Group Honored at the 4th edition of the Annual India Leadership Conclave and Indian Affairs Business Leadership Awards 2013



One of the fast growing Multi-super specialty tertiary care chains of India, Global Hospitals Group, has received yet again the most coveted and prestigious awards in Healthcare. At the 4th Annual India Leadership Conclave and Indian Affairs Business Leadership Awards 2013 Event at Mumbai

that was attended by the healthcare industry luminaries, Global Hospitals Group was awarded the "India's Most Valuable Health Care Chain Award" for 2013 while the Group's Chairman & Managing Director, Dr. K. Ravindranath, received the prestigious "Business Leader of the Year" for his outstanding contribution to the field of medicine and for his visionary leadership.

Both the Awards are extremely significant because the Awards Jury Committee adapted the Public Nomination Voting system. The Jury Members under the clause of Nominations looked at all the finer details before arriving at a conclusion. The decision came after a close scrutiny of all the nominees under voting, recognizing the tough task building a differentiated and niche multi-super specialty tertiary care hospital chain and evolving into a reckon to with, Brand & sustaining the momentum in a fiercely competitive Market.

India Leadership Conclave & Indian Affairs Business Leadership Awards organized by Network7 Media Group's Indian Affairs Magazine, Asia's biggest analytical news Magazine, is one of India's prestigious & coveted title & has established a credible platform of serious discussion where Brand India's most illustrious Leaders & icons assemble to discuss the roadmap for India's growth trajectory.

Global Hospitals Group has made its mark & has been successful & is one of the fast growing super specialty care and multi-organ transplantation hospitals in India. It evolved into a Clinical Powerhouse pioneering many transplantation surgeries and cutting edge clinical programs establishing benchmarks that are difficult to surpass. Global Hospitals has to its credit many trailblazing achievements made possible by combining research, teaching and patient care.

Aware Global Hospitals, L.B. Nagar, Hyderabad is now HALAL certified



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Bengaluru



Global Hospitals,
Mumbai

KNOW THYSELF

Stress - Self-Affirmation: *It's no secret that stress increases our susceptibility to health problems disorders, and it also impacts our ability to solve problems and be creative. But methods to prevent associated risks and effects have been less clear - until now.*

Published in PLOS ONE, new research from Carnegie Mellon University provides the first evidence that self-affirmation can protect against the damaging effects of stress on problem-solving performance. Understanding that self-affirmation - the process of identifying and focusing on one's most important values - boosts stressed individuals' problem-solving abilities will help guide future research and the development of educational interventions.

"An emerging set of published studies suggest that a brief self-affirmation activity at the beginning of a school term can boost academic grade-point averages in underperforming kids at the end of the semester. This new work suggests a mechanism for these studies, showing self-affirmation effects on actual problem-solving performance under pressure," said J. David Creswell, assistant professor of psychology in CMU's Dietrich College of Humanities and Social Sciences.

Because previous research indicated that self-affirmation may be an effective stress management approach, Creswell and his research team had college students' rank-order a set of values (e.g., art, business, family and friends) in terms of their personal importance, and indicate their levels of chronic stress. Participants randomly assigned to a self-affirmation condition were asked to write a couple of sentences about why their number one ranked value was important (a standard self-affirmation exercise). All participants then had to complete a challenging problem-solving task under time pressure, which required creativity in order to generate correct solutions.

The results showed that participants who were under high levels of chronic stress during the past month had impaired problem-solving performance. In fact, they solved about 50 percent fewer problems in the task. But notably, this effect was qualified by whether participants had an opportunity to first complete the self-affirmation activity. Specifically, a brief self-affirmation was effective in eliminating the deleterious effects of chronic stress on problem-solving performance, such that chronically stressed self-affirmed participants performed under pressure at the same level as participants with low chronic stress levels.

"People under high stress can foster better problem-solving simply by taking a moment beforehand to think about something that is important to them," Creswell said. "It's an easy-to-use and portable strategy you can roll out before you enter that high pressure performance situation."

- From the Waves of Ocean