



The NGS MIPS Herald

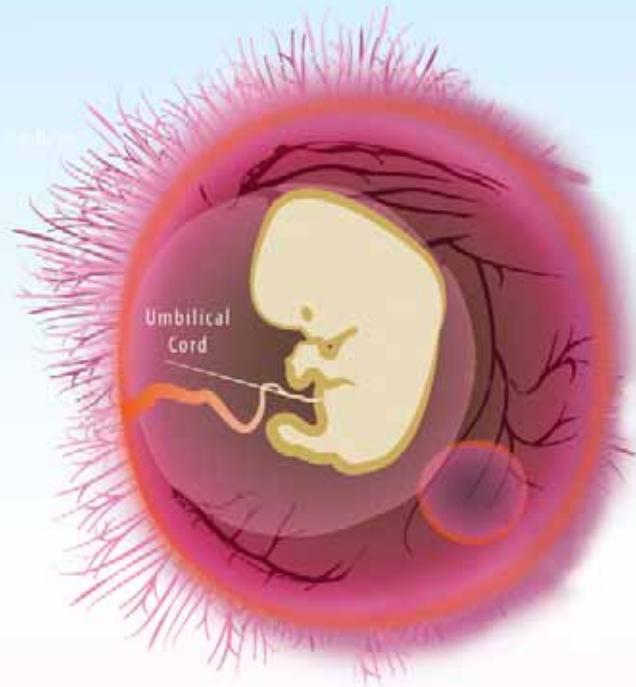


The Official news letter of the Nitte Gulabi Shetty Memorial
Institute of Pharmaceutical Sciences, Mangalore

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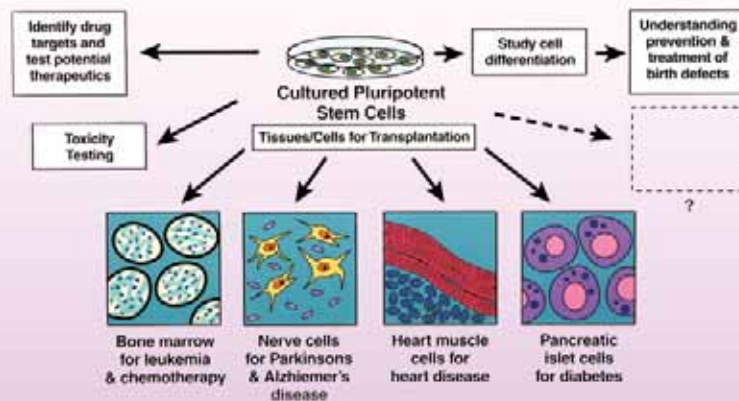
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Umbilical Cord - Source of Stem Cells

VISION

To build a humane society through excellence in education and health care.

MISSION

To develop Nitte University as a centre of excellence, imparting quality education, generating competent, skilled manpower to face the scientific and social challenges with a high degree of credibility, integrity, ethical standards and social concern.

'For Private Circulation Only'

From the Editor's desk

Friends,

The Supreme Court of India's verdict on the Novartis' Glivec case seems like a two pronged sword and refusing the Swiss company an extension of the patent for a newer version of its anticancer drug was received with mixed reactions by the Public. On one hand you have the Big Pharma which sees the verdict as a death knell to innovation and research and on the other hand, Glivec or Imatinib mesylate, a life saving drug for the treatment of multiple cancers especially chronic myeloid leukemia will now be cheaper in a country where many patented drugs are too costly for most people. The rejection is based on '3(d) of Indian Patents (Amendment) Act of 2005' which states that 'mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance' could not be patented. The patent application filed in India is an alternative form of the original compound without any difference in efficacy as compared to the original compound. Though Novartis stated that the beta form of Imatinib Mesylate has increased bioavailability comparing to the free base form of Imatinib, the Supreme Court stated that increased bioavailability cannot be considered as increased therapeutic efficacy. The Glivec judgement is not the only one that has ruled in the favour of public health in India. However, after this ruling many MNCs will think twice before carrying out research and development or seeking a patent in India. This incident certainly gives food for thought to researchers on whether to choose patient over patent.

The message here is, in a country like ours, with a population of over 1.2 billion of which nearly 30% are below the poverty line, affordability of drugs should be given priority over profit.



Marina Koland, *Executive Editor.*

Farewell to Dr. D. Satyanarayana



Sri Vinaya Hegde presents a souvenir to Dr Satyanarayana and Mrs. Satyanarayana



NGSM IPS faculty felicitate Dr. Satyanarayana



Dr. Shantharam Shetty presents a shawl while Dr. Ramananda Shetty looks on.



Teaching and Non-teaching faculty of NGSM IPS with Dr. D. Satyanarayana and Mrs. Satyanarayana

CAMPUS BUZZ

NGSMIPS bids farewell to Dr. D.Satyanarayana

The Institution bid adieu to Dr. D.Satyanarayana, Director of PG studies and Research and Former Principal of NGSM IPS. In a solemn function held on January 8, 2013 at the Nitte Institute of Communications (NICO), Paneer. At the ceremony hosted by Dr. C.S Shastry, Principal, NGSMIPS, Dr. Satyanarayana was felicitated by Sri. N. Vinaya Hegde, Chancellor of the Nitte University. Dr. Shantharam Shetty, Pro-Chancellor, Dr. Ramananda Shetty, Vice Chancellor, Dr. Sudhaker Nayak, Registrar, and other officers of the Nitte University were also present. Sri. Vinaya Hegde praised the former Principal for being instrumental in making NGSMIPS, a pharmacy institution to reckon with. The faculty and alumni of the Institution also expressed their appreciation.

Dr. D.Satyanarayana, an alumnus of the College of Pharmacy, Manipal and with over 16 years of teaching experience behind him, became the Principal of the NGSM



Sri. N. Vinaya Hegde speaks at the farewell function for Dr. D. Satyanarayana. Also present are Dr. Shantharam Shetty, Mrs. Satyanarayana, Dr. Ramananda Shetty and Dr. C.S. Shastry

Institute of Pharmaceutical Sciences, in May, 1986 when it was just a department at the NMAM Institute of Technology, Karkala. During his tenure as Principal, the Institution was recognized as a Research centre and commenced the M.Pharm program in Pharmaceutics, Pharmacology and Pharmaceutical Chemistry and had seen NGSMIPS shifted to three campuses of Derelakatte, Nanthoor and finally Paneer. He is also credited with starting the Ph.D Program in the Institution and thus enabling the majority of the teaching faculty to obtain their doctorate degrees. Though he stepped down as Principal in 2005 owing to ill health, Dr. Satyanarayana continued as the Director of PG Studies & Research since then.

Guest Lectures

Prof. (Dr.) Harsha Halahalli, Dept. of Physiology, KSHEMA presented a lecture on, "Development of e-learning

material for UG and PG programs as a part of teaching-learning process" on January 2, 2013. During the lecture he has discussed the need, planning and assessment of e-learning for faculty members and students. Moreover, he demonstrated the usefulness of NUe-learning software that was already in use at the Department of Physiology. The lecture was attended by teaching faculty and Ph.D scholars who found it useful.

On January 11, 2013, Mr. Joy Stephen, MD and Senior Consultant, Polinsys, Canada and Mr. Abraham Assayag, Senior Consultant, Polinsys for promoting immigration and education in Canada had an opportunity to speak to students of Pharmacy and Nursing. During the lecture held at the Nitte Institute of Communications, Paneer, Mr. Joy and Mr. Abraham had discussed about the essential educational qualification and expenditure to immigrate to Canada and scope for Nurses and Pharmacists. They stressed on the importance of learning French along with English as most of the Canadian population speak French. Later, they had provided leaflets to avail more information about Polinsys and immigration procedures to Canada. The following points were discussed.

Swami Bodhmayananda, Director, Vivekananda Institute of Human Excellence, Ramakrishna Mutt, Hyderabad delivered a lecture on "Stress management" on 28, January 2013 at the Nitte Institute of Communications, Paneer. The lecture covered various vital issues that were responsible for



Swami Bodhmayananda

leading to stress in humans. Swami Bodhmayananda also discussed few constructive points for overcoming stress like meditation, yoga and helping the poor and distressed people which will allay stress by bringing joy and happiness. Moreover, he inspired the gathering by quoting Swami Vivekananda and provided books, magazine and CDs to the audience for help with stress.

Dr. Marina Koland, Professor, Dept. of Pharmaceutics, NGSM IPS was invited to speak on, "A Brief Insight into some Cosmetic and Pharmaceutical Formulations" on February 23, 2013 at the One Day Hands on Training in Pharmaceutical and Cosmetics Formulation at the Vellore Institute of Technology (VIT), Vellore. This workshop was organized by the Pharmaceutical Chemistry Division of the School of Advanced Sciences, VIT.

Blood Donation Camp at NGSMIPS

A blood donation camp was arranged by the NSS unit of the NGSM Institute of Pharmaceutical Sciences on March 1, 2013 in collaboration with the NSS Unit of Nitte University, Red Cross Society (Dakshin Kannada Branch) and K.S. Hegde Charitable Hospital, Nitte University, Mangalore. The guest of honour on this occasion was Dr. Muralee Mohan, Professor, Department of Maxillo-Facial Surgery, A. B. Shetty Memorial Institute of Dental Sciences, Chairman of the Indian Red Cross Society (Dakshin Kannada Branch)

Parents - Teachers Meetings organized

Parents - Teachers Meetings for I Year Pharm. D, I B.Pharm and II B.Pharm were organized by the Institution on 16th, 18th and 19th March 2013. Parents were requested to speak about any difficulties experienced by their sons or daughters with respect to the curriculum, hostels or suggestions as to how teachers can contribute to easing these problems. The Principal, Dr. C.S.Shastry clarified the doubts of the parents and the teachers on these occasions.

NGSMIPS students bag prizes at the Techno Cultural Fest, 'Aakriti 13'

At the Techno Cultural fest, 'Aakriti 13', February 22-23, 2013 organized by the Canara Engineering College, Mangalore, NGSM IPS students won the first place for the Group Dance (Western) and second place for the Dance Duet.

M.Pharm student wins the All India Essay Competition conducted by the FICCI

Mr. Raviverma Vinayak Das, II M.Pharm student from

the Department of Pharmaceutics won the All India Essay Competition organized by the Federation of Indian Chambers of Commerce and Industry or FICCI (Under the aegis of Intellectual Property Education Centre) for the month of December 2012. He also receives a cash prize of Rs. 5000.

Sports day, Literary and Cultural weeks celebrated

NGSM IPS organized Sports Day 4th March 2013 at the Mangalore University Grounds, Konaje. There was active participation from boys and girls in most of the events conducted and the hot, humid weather did little to dampen their spirits.

Literary week, 'Xibit - 2013' conducted from February 20-28, 2013 showcased the literary talents of the students. The various events conducted during the week were drawing, poetry, dumb charades, quiz, calligraphy, collage, essay writing, crossword/Sudoku and elocution.

The cultural competitions collectively named as, 'Exuberance-2013' was held on 21st and 22nd March 2013 and included events such as cooking without flame, mehendi, antakshari, treasure hunt, rangoli, face painting, traditional day and the most popular class exhibition. Class wise competitions in cultural events such as singing, dancing, spot dance, mad ads and fashion show were later conducted on Cultural day, held on 9th April 2013 at KSHEMA Auditorium, Deralakatte.

Promotion

Mrs. Nisha Girish Shetty, Senior Lecturer, Dept. of Pharmaceutics was promoted to Assistant Professor with effect from March 2013.

DEPARTMENT ACTIVITIES

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

RESEARCH PUBLICATIONS

DR. K.ISHWAR BHAT, Professor

Studies related to antimicrobial activity of aminobenzylated mannich bases of urea. *International Journal of Pharmacy* 2013; 3(1): 98-102

DEPARTMENT OF PHARMACEUTICS

RESEARCH PUBLICATIONS

DR. R. NARAYANA CHARYULU, Professor

Transdermal delivery of Felodipine from Eudragit Films. *Am J Pharm Tech Res* 2013; 3(2): 517-531

DR. MARINA KOLAND, Professor

The Effect of Iontophoresis on the Transdermal Delivery of Aceclofenac from Films in Rats. Poster Presentation at the 2012 AAPS Annual Meeting and Exposition; October 14-17, 2012; Chicago. Poster R6053

MRS. NISHA GIRISH SHETTY, Assist. Professor

Formulation and Evaluation of Niosomal Gel of Betamethasone Valerate. Poster Presentation at the 2012 AAPS Annual Meeting and Exposition; October 14-17, 2012; Chicago. Poster M1121

DEPARTMENT OF PHARMACOLOGY

RESEARCH PUBLICATIONS

DR. GURURAJA M.P., Assist. Professor

Cephalosporine utilization evaluation in university teaching hospital: A prospective Study. *Journal of Drug Delivery and Therapeutics* 2013, 3(2), 83-87.

DR. HIMANSHU JOSHI, Assist. Professor

Analgesic and anti-Inflammatory potential of *Ervatamia coronaria* (STAPF). *International Journal Pharmaceutical Sciences and Research*. 2013, 4(4), 1449-1452.

MRS. NIMMY CHACKO, Senior Lecturer

Antidiabetic Activity of Alcoholic Extract of *Costus Igneus* Leaves Extract. Poster Presentation at the 2012 AAPS Annual Meeting and Exposition; October 14-17, 2012; Chicago. Poster T3084

RESEARCH ACTIVITIES IN PHARMACEUTICAL ACADEMIC INSTITUTES IN INDIA

(This essay won the first prize in the FICCI competition)

Mr. Raviverma Vinayak Das, II M.Pharm
Dept. of Pharmaceutics

“Inventions and discoveries have emanated from creative minds that have been constantly working and imagining the outcome in the mind. With imagining and constant effort, all the forces of the universe work for that inspired mind, thereby leading to inventions and discoveries. The question is: are you willing to become a unique personality” - Dr. A P J Abdul Kalam [former president of India] during the 64th Indian Pharmaceutical Congress.

Today in this era of rapid discovery of newer and newer drugs for the specialized treatment of diseases, it's very important for India to become a part of the discoveries as well.

This is very much important as India is aiming to become the best drug manufacturing country for generic drugs at a higher quality with an affordable pricing. Everyone in the world has accepted that the world would be controlled by the BRIC countries in near future. In the case of India, it should not only produce drugs for the export but also to meet the major internal demands of the people. The research activities in India have wide chances of development in the field's right from the drug discovery from the natural crude drugs till the successful dosage form designing.

Our country has a large resource power in sort of all the materials required for a research work to be carried over successfully. We have a large number of well-educated persons in the field of pharmacy; we have our own traditional knowledge, natural resources, large number of student community etc. We have everything but still we can't utilize these why? The simple reason is we don't know the power of each of us and are not utilizing it to the maximum. All of us are like elephants which don't know their size and power due their big ears; similarly we think we are not having the power, only the people of other countries have the power to do research.

The next problem that we are facing is the lack of good friendly relationship between the professors and the students which leads to loss of creative thinking in students. Another problem this field is facing is that there is neither a good tie up nor a successful relationship between the companies and the academic institutions in India. There exist only a few relationships in the same. Another major problem that the pharma field is facing due to the neglecting attitude of our government and policies made for the pharma research. The government has to enhance the research activities in India. The efforts taken by the government are also not meeting to the demand.

All these are problems are there but the major threat that the pharma research field in our country are facing is the “brain drain”. Our brilliant students are going out of India for higher studies and are not returning back. We are not able to utilize those brilliant brains in this field. This may be due to lack of recognition of their values, lack of freedom in their working environment, etc.

These problems can be overcome by improving the attitude of the government in the sense; politicians, pharma students, teachers, pharma industrialists, all together. The government should take more responsibility or initiative for improving the relationship of the companies in the research field with the educational institutions present in India. The policies should be made more practical oriented instead of their current adamant older versions. All should think that it's our own need that the research activity in our country has to be improved, we have to voluntarily contribute to the maximum extend. We don't have to think that we are inferior or superior to others. Each and every one in our field is unique and has unique capabilities. When all these unique capabilities come together then the research will be a success. Chances should be given to the fresher's in the field of research, they may be lacking practical knowledge, but they may have more creativity and dedication. There are wide possibilities and areas for research in India.

Let us see some of the areas where the research activities in pharmaceutical academic institutes in India can be done. The different major departments of academics in pharmacy like Pharmacognosy, Pharmaceutical Chemistry, Pharmacology, and Pharmaceutics can work out together in the discovery of newer drugs from the wide range of our medicinal plant reserve available and utilizing the traditional knowledge for the same. The next option is to make tie-ups with different R&D firms and workout for the experimentation within the academic institution itself. Another option of improving the research activities is by increasing the funds for the purpose of research works done by students, so as to encourage them in their new venture.

Now we can find out what the possibilities those are available and how to make it a success in the joint venture of different academic departments for the research. I would like to take an example of our ordinary *ocimum sanctum* [Tulsi plant]. We know that it has many medicinal activities. Based on this many successful works are also done and patents are also there or applied for. But let us see how the research or the drug discovery can be made more easy, cost effective and less time consuming. So now let us see what would be the roles of each department in completion of the research works. The Pharmacognosy department can find out and identify the medicinal plants that are being mentioned in our old traditional ayurvedic books or practices, from the traditional practitioners in our country. The Pharmaceutical Chemistry department can isolate the active components of that plant. The next step what the pharmacology department can do is to find out the toxicity and feasibility of using them individually for the treatment it's meant for. A plant with all the chemicals as whole may be unreactive, but individually it may be toxic. Simultaneously the pharmaceutical chemistry department can

work on the structural analysis of the active components and find out the possible ways of synthesizing it by the easiest way with a low cost. The next step what the pharmaceuticals department can do is to produce a suitable dosage form for the administration of that found chemical by the patients with low price and enhance the patient compliance in a pilot scale. Finally if these steps are found successful, then this can be transferred to the industry for the final implementation. The whole process can be done as a part of the students post-graduation or Ph.D. work. This can either be funded by the universities or the academic institution or by any pharmaceutical company. The advantage of this sort of combined effort for students is that they can improve their skills and have the chances of proving themselves before getting a job. The advantage for the companies is that they can reduce the cost of the research work due to reduced expenses in the form of salary, what they have to do is just to share their knowledge and help in procuring the materials. The university or the institute will be getting an advantage of improving their standards, goodwill and become an example for others.

If this option is not possible then the next option is that instead of doing the R&D works by the companies alone, part of the work can be made to be done by the Academic institutions by utilizing the PG students. This in fact can improve the student's knowledge and also the chances for getting a job.

The advantage of the companies is that more and more research works can be done by them within a short period of time as they have to do only the most and very important part of the work by themselves.

As we all know that the cost of research works cannot be handled by a student by him/her alone. But they would be having the skill of doing the work. This could lead to loss of utilizing the skills and their thoughts and creativity. This can be overcome by the providing grants and funding to the students. This can improve the academic research possibilities and in turn lead to the newer discoveries which even none other had thought till date. The funding can be done by the universities, institutions, pharma companies or even any other organizations. The advantage of this is that the raw and fresh brains can be utilized for the improvement of the discovery with mutual advantages at a low investment and high output from the work.

Let us all move forward and work together for the improvement of the research activities in pharmaceutical academics. We have to think that we have the large possibilities for improvement but we should be able to imbibe and change ourselves for meeting the needs. Let us all join hands together for a bright future of India, and dream together for making India stand in the first place in the world of research in the coming years.

STEM CELLS FROM UMBILICAL CORD - POTENTIAL LIFELINE?

*Compiled by: Ms. Jainey James, Lecturer
Dept. of Pharmaceutical Chemistry*

Stem cells are biological cells found in all multicellular organisms, that can divide (through mitosis) and differentiate into diverse specialized cell types and can self-renew to produce more stem cells. In mammals, there are two broad types of stem cells: embryonic stem cells, which are isolated from the inner cell mass of blastocysts, and adult stem cells, which are found in various tissues. In adult organisms, stem cells and progenitor cells act as a repair system for the body, replenishing adult tissues. In a developing embryo, stem cells can differentiate into all the specialized cells (these are called pluripotent cells), but also maintain the normal turnover of regenerative organs, such as blood, skin, or intestinal tissues.

There are three accessible sources of autologous adult stem cells in humans: Bone marrow, which requires extraction by harvesting, that is, drilling into bone (typically the femur or iliac crest), Adipose tissue (lipid cells), which requires extraction by liposuction, and Blood, which requires extraction through pheresis, wherein blood is drawn from the donor (similar to a blood donation), passed through a machine that extracts the stem cells and returns other portions of the blood to the donor.

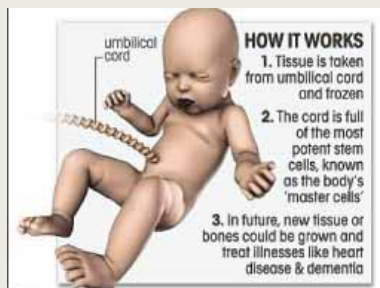
Stem cells can also be taken from umbilical cord blood just after birth. Of all stem cell types, autologous harvesting involves the least risk. By definition, autologous cells are obtained from one's own body, just as one may bank his or her own blood for elective surgical procedures.

Breakthrough medical research has now shown that the umbilical cord blood and cord tissue are one of the richest sources

of stem cells, which have a high potential to treat over 75 serious ailments and holds the promise to treat many more critical ailments in the future. The umbilical cord blood and cord tissue can be easily collected, processed and preserved through the innovative concept of stem cell banking for future use. Parents collect and preserve the stem cells from their baby's umbilical cord within 10 minutes of birth of the baby. After the baby is born, obstetrician or paramedic staff will collect the cord blood and the cord tissue. The entire process takes less than 10 minutes and it is harmless to both the mother and the baby. Once the cord blood and cord tissue has been collected, it will then be transferred to a processing facility through designated courier for processing and storage.

Cord blood is the blood that remains in baby's umbilical cord and placenta after the birth of the baby. This blood has been found to be an extremely rich source of stem cells, the master cells of the human body that can be used for medical treatments. These stem cells can now be used as an alternative to embryonic, bone marrow and other stem cell types. There are no ethical controversies surrounding stem cells derived from the umbilical cord as the umbilical cord and placenta are usually discarded after birth. Baby's cord blood is a valuable source of stem cells that could be used to treat many life-threatening diseases and medical conditions. The umbilical cord blood stem cells are "Haemopoetic stem cells" which have a high potency to treat blood and blood related disorders like leukemia, thalassemia etc., The value and benefits of umbilical cord blood stem cells are great as stem cells

have saved many lives so far, and medical researchers are exploring new uses for umbilical cord blood stem cells in treating diabetes, heart disease and stroke. Cord blood stem cells are useful to regenerate healthy blood and immune system. Preserving baby's cord blood ensures that child will have a source of stem cells that is an exact match, with almost no risk of rejection, if need arises for medical treatment.

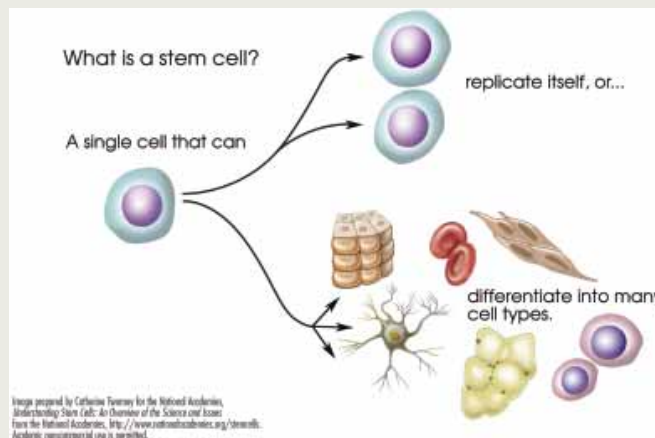


Umbilical cord blood stem cells offer several advantages over other sources. Stem cells from cord blood have successfully treated children and adults. Transplants that use cord blood from a family member (e.g., a sibling) are twice as successful as transplants that use cord blood from a non-relative (e.g., from a public bank). When a child receives his or her own cord blood, there is no risk of rejection.

The cord tissue is the tissue constituting the umbilical cord after removal of the cord blood. The cord tissue is loaded with stem cells, which are the origins of the body's immune system, blood system, and tissues. These stem cells can be used for medical treatments and there are no ethical controversies surrounding stem cells derived from the umbilical cord as the umbilical cord and placenta are usually discarded after birth. Baby's cord tissue is a valuable source of stem cells that could be used to treat many lifestyle and tissue degenerative diseases and medical conditions. The umbilical cord tissue stem cells are "Mesenchymal stem cells" which have been found to have the potency to treat tissue / organ related ailments like diabetes, heart

ailments, osteoporosis etc.,

List of diseases that can be potentially treated using Cord Tissue stem cells: Chronic Obstructive Pulmonary Disease, Cardiac Arrhythmia, Crohn's Disease, Graft vs Host Disease, Osteoarthritis, Critical Limb Ischemia, Multiple Sclerosis, Diabetes. So it is important to preserve both the cord blood and cord tissue stem cells to ensure that the child gets a complete



cover from most of the ailments what the future may promise.

References :

Haller MJ, et al.; Viener, HL; Wasserfall, C; Brusko, T; Atkinson, MA; Schatz, DA (2008). "Autologous umbilical cord blood infusion for type 1 diabetes." Exp. Hematol. 36 (6): 710-715. doi:10.1016/j.exphem.2008.01.009. PMC 2444031. PMID 18358588.

Vendrame M, et al. (2006). "Cord blood rescues stroke-induced changes in splenocyte phenotype and function." Exp. Neurol. 199 (1): 191-200. doi:10.1016/j.expneurol.2006.03.017. PMID 16713598.

Vendrame M, et al. (2005). "Anti-inflammatory effects of human cord blood cells in a rat model of stroke." Stem Cells Dev. 14 (5): 595-604. doi:10.1089/scd.2005.14.595. PMID 16305344.

Guest Lectures



Mr. Joy Stephen and Mr. Abraham Assayag from Polinsys, Canada



Dr. Harsha Halahalli, Dept. of Physiology, KSHEMA presents a lecture on 'e-learning'



Swami Bodhmayananda delivers a lecture on "Stress management"

Cultural Week, 'Exuberance - 2013'



Sports Day - March 4, 2013



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