

BLOOD TRANSFUSION HEMATOLOGY HOSPITAL



THE FIRST SUCCESSFUL IMPLEMENTATION OF BONE MARROW TRANSPLANTATION FROM PERIPHERAL BLOOD OF DIFFERENT BLOODLINE IN VIET NAM

OVER 30 YEARS OF OPERATION AND DEVELOPMENT OF HO CHI MINH BLOOD TRANSFUSION AND HEMATOLOGY ASSOCIATION

HIGH TECH TESTING MEETING ISO STANDARDS
(15189:2012 - 9001:2015)

INTERGRATION AND DEVELOPMENT

Ho Chi Minh Blood Transfusion and Hematology Hospital is the leading hospital of blood transfusion and hematology all over the south and whole Vietnam. Over 40 years of operation is a long way with the efforts of many generations of staff, employees of the Hospital.

Over 40 years has passed, the hospital has gone through many ups and downs in pursuit of its three development goals despite its small infrastructure. But with the spirit of hard work and determination of the collective management board and all officers and employees of the hospital through the periods. The hospital has made unparalleled achievements in medical history of Vietnam.

In the near future, we will have a modern spacious hospital. It is the ever-burning desire of the hospital staff to improve the quality of service and treatment, the best quality of life for patients with chronic and hematologic hematology.

On the behalf of the board of editors of Blood Transfusion and Hematology Hospital, we would like to send to all of you, our colleges this news as a present, a message with the transmission of activities, pictures, with our hope about "Cooperation – Intergration – Development"

**HAPPY
NEW YEAR**

2018

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NEWS

**BLOOD TRANSFUSION
HEMATOLOGY HOSPITAL**

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NEWS AND EVENTS

The first successful implementation of bone marrow transplantation from peripheral blood of different bloodline in Viet Nam

On 16/11/2017, Blood Transfusion Hematology Hospital (BTH) announced their successful implementation of bone marrow transplantation from peripheral blood of different bloodline, the first one in Viet Nam.

Being the leading hospital in the South, Blood Transfusion Hematology Hospital (BTH) has successfully implemented the technique of bone marrow transplant (allogeneic transplant) since 1995. However, the problem is that many patients can not find the right stem cell donors with compatible HLA from the same bloodline. Meanwhile, up to now, Viet Nam has not had any stem cell banks from volunteer donors. Therefore, in some cases, patients have to travel abroad to find suitable stem cell sources.

In order to expand the search for stem cells for hematopoietic stem cell transplantation, Blood Transfusion Hematology Hospital has worked with a number of partners, which are large overseas stem cell banks, including Tzu Chi Transplant Center (Taiwan). Tzu Chi Transplant Center (Taiwan) is one of the largest Stem Cell Centre in Asia. This center has provided stem cells to many treating facilities in 30 countries around the world with a total of 4,498 patients receiving stem cells. Realizing that this is a suitable and potential partner, on 15/04/2016, Blood Transfusion Hematology Hospital has signed a cooperation agreement with Tzu Chi Transplant Centre. According to the agreement, Tzu Chi Centre will conduct



HLA tests to find HLA fully compatible donors and supply the hospital with stem cells to perform allogeneic bone marrow transplant.

The transplant process is closely monitored by a team of specialists with more than 20 years experience of hematopoietic stem cell transplantation from Blood Transfusion Hematology Hospital. At present, the patient has entered the 57th day of transplant, Mr Q.D.A's health has gradually stabilized, lab results determining the percentage of engraftment (Chimerism) have shown that 100% of cells were donor's stem cells.

The first hematopoietic stem cell transplantation from peripheral blood of different bloodline in Viet Nam conducted by Blood Transfusion Hematology Hospital has been successful. This is an outstanding treatment advancement, opening up a new direction and hope to cure patients with malignant diseases who can not find the right stem cell donor of the same blood relation.



Cooperation Memorandum on “Stem cell research between Lifebank Japan, INC and Blood Transfusion Hematology Hospital

On the morning of 07/11/2017, a signing ceremony of cooperation on "Stem cell research between Lifebank Japan, INC and Blood Transfusion Hematology Hospital was held at the meeting hall of the hospital. The goals of cooperation include:

- Transfer of Mesenchymal Stem Cells (MSC) separation techniques from placenta.
- Research and identify environmental pollution factors through placenta and umbilical cord study.
- Research on placental epigenome, umbilical cord.
- Set up of the MSC Bank at Blood Transfusion Hematology Hospital.
- Personnel training at Blood Transfusion Hematology Hospital.
- Receiving hospital staff sent to study in Japan
- Advising, supporting, providing equipments and chemicals for the hospital to implement the contents above.



NEWS AND EVENTS

Re-assessment of the laboratory quality management system following ISO 15189:2012 at Blood Transfusion Hematology Hospital

From 23-27/10/2017, five laboratory departments including: Biochemistry – Hematology, Pathology, Immunology, Blood Screening, Molecular Genetics in Blood Transfusion Hematology Hospital completed the re-assessment of their accredited medical laboratories with ISO 15189: 2012 standards.



ISO 15189: 2012 is an International Standard specifying requirements for competence and quality that are particular to medical laboratories and playing an important role in assisting medical practitioners in providing the best diagnosis and treatment to the patients.

In October 2016, **Blood Transfusion Hematology Hospital** was honored to receive ISO 15189: 2012 certification for all areas: Hematology - Biochemistry - Microbiology - Biology - Pathology. More than a year after the day of recognition, all of **Blood Transfusion Hematology Hospital** staff members have always maintained and improved the system in order to improve the service quality provided to their clients.

The re-assessment results showed that the ISO 15189: 2012 quality management system established at the hospital was well-sustained with positive improvements, which help enhancing the quality and increasing customer's satisfaction.

Medical laboratories at **Blood Transfusion Hematology Hospital** are always available to receive testing requests from other laboratories in need of interlaboratory comparisons and reference testings for building their ISO 15189:2012 quality management system.

HEALTH EDUCATING COMMUNICATION Hemorrhagic Thrombocytopenia

On 21/10/2017, the first health educating communication program on thrombocytopenic disease was held at Blood Transfusion Hematology Hospital. With the goals of "improving patient quality of life", the program has provided useful knowledge for many patients with thrombocytopenic diseases. Because this was the first time the hospital had organized such a communication program about this disease, it attracted a large number of patients.



Within only 60 minutes, Master Doctor Tran Thi Thien Kim (Deputy of General Planning Department at Blood Transfusion Hematology Hospital) and RN Doan Thi Phuong Dung (Head nurse of Nutrition and Dietetics Department) provided some basic knowledge of the disease as well as health care and nutrition for these patients. A lot of other aspects including treatments, medications, medication side-effects, exercise, pregnancy,... were specifically explained in details by the doctors.

Welcoming APEC delegates investigating and supporting GMP for the Blood Bank

From November 12th to 15th, 2017, Blood Transfusion Hematology Hospital was honored to welcome APEC specialist – Ms Veronica Anne Armstrong coming to advise on the implementation of GMP Standards for the Blood Bank of the hospital.

LỄ TRAO QUYẾT ĐỊNH BỔ NHIỆM LẠI GIÁM ĐỐC BỆNH VIỆN

On the afternoon of November 14, 2017, at Blood Transfusion Hematology Hospital, Prof. Dr. Nguyen Tan Binh - Director of Ho Chi Minh City Health Department gave the Reappointment Decision to MD. Phu Chi Dung - Director of Blood Transfusion Hematology Hospital.

Speaking at the ceremony, Prof. Dr. Nguyen Tan Binh - Director of Ho Chi Minh City Health Department sent congratulations to MD. Phu Chi Dung for completing outstanding tasks in the previous term. At the same time, the director of Ho Chi Minh City Health Department also expressed his belief in MD. Phu Chi Dung that he will prove his abilities, intelligence, creativity to complete the tasks assigned in the next term, which will contribute to improve the quality of medical examination, treatment and health care for the people. He hoped that remaining at the same position, MD. Phu Chi Dung will unite with the board of directors and managing staffs of the hospital to promote the achievements and continue efforts to overcome difficulties in order to maintain the hospital reputation of a reliable last-line hospital of the health care industry.



MD. Phu Chi Dung have a permission reapprove the director position

In his speech, MD. Phu Chi Dung was very emotional to express his thankfulness to all staff of the hospital for their trust and respect. He also recognized the trust of the Leaders of Health Department, the Party Committee and the Directorate of Blood Transfusion Hematology Hospital with this entrusted assignment. MD. Phu Chi Dung - Director of Blood Transfusion Hematology Hospital committed to strive to complete all tasks assigned with excellence, and

he also made a promise to unite with the board of directors and hospital managing staffs to carry on the leading reputation of Blood Transfusion Hematology Hospital in the industry, deserving the expectation of the Leaders of Health Department.



Leaders of Health Department and the Directorate as well as other key managing staffs of Blood Transfusion Hematology Hospital

Hand hygiene promotion ceremony “Protecting life – washing your hands”

On November 16th, the hospital organized the launching ceremony of the Hand Hygiene Campaign with enthusiastic, enthusiastic and complete involvement of the Board of Directors, the departmental managers and over 200 health workers. Speaking at the ceremony, Director of the Hospital, Dr Phu Chi Dung highlighted the importance of hand hygiene in patient care and treatment, mentioning hand hygiene at five points recommended by the World Health Organization (WHO):

- Before contact with the patient;
- Before performing clean or sterile procedures;
- After contact with the patient;
- After being exposed to blood or secretions;
- After touching objects around the patient;

After the ceremony, members of the Infection control Department and infection control network cooperating with the other departments to deliver a message to family members and relatives about the importance and benefits of hand washing and proper hygiene instructions at the right time.

In the exciting and jubilant atmosphere of all participants at the launching ceremony, this truly brought a meaningful message and a proper perspective to all hospital staffs, patients and their relatives about hand hygiene.

Blood Transfusion Hematology Hospital took part in the “White blouse special force” competition.

Following the plan on 17/04/2017 of HCM City Public Health Association; HCM City Health Union; HCM City Television; Sai Gon Media One Co. Ltd co-organized the "White Blouse Special Force 2017 - Season 2" contest; Thereby, HBTH would compete with Go Vap Hospital and the contest would be broadcasted in Episode 5 of "White Blouse Special Force 2017" on HTV9 at 21:00 pm on Saturday, October 7th, 2017.

The contest consisted of three parts: Talent performance, Knowledge and Case management.

In the part of "Talent performance", the hospital selected a dance song: "I wish" written by Le Cat Trong Ly representing for the health professionals' best wishes sent to their patients.

In the part of "Knowledge", **Blood Transfusion Hematology Hospital** excellently answered 10 out of 10 questions given by the organizers.

In the the part of "Case management", the hospital got Guest Actor Le Duong Bao Lam acting as the husband of a nurse, who created many difficult situations surprising the hospital team with his circumstances.

Each team did not only have talented doctors with professional skills, but also contained the bright faces with shining smiles. The appearance of the teams in "White Blouse Special Force - Season 2" was something really special, with their own characters and youthful spirits, self-motivation, skills and calmness in each episode. With their youth, self-motivation and profession interests - the health professionals of Blood Transfusion Hematology Hospital convinced the audience with their love, their heart and won the fifth ticket to the second round of White Blouse Special Force 2017.

Duong Ngoc Phuong Trang





HIGH TECH TESTING MEETING ISO STANDARDS (15189:2012 - 9001:2015)

PhD. Dr Phan Nguyễn Thanh Vân

Master. Mai Thanh Truyền

Master. Nguyễn Phương Thảo

With the development of modern medicine, laboratory tests play an important and indispensable role in the detection, diagnosis, treatment and prognosis of diseases. Not only in Viet Nam but also in the world, hospitals have a special interest in laboratory testing services with the goal to enhance their technology and quality in order to provide reliable and fast test results, which support for effective diagnosis and treatment.

At Blood Transfusion Hematology Hospital, we have built 6 laboratories with advanced technologies, which are not only capable of carrying out regular hematological tests but also able to perform other advanced tests.

Biochemistry – Hematology Department can perform a variety of tests in hematological, biochemical, blood clotting profile, immunological, myelogram.

Blood Screening Department can do different tests to screen for blood transfusion agents, blood grouping, HIV, HBV, HCV screenings using NAT, HIV confirmig test.

thalassemia, beta thalassemia diseases ; determinating of alpha-thalassemia mutation (GAP-PCR); identifying malignant blood disease genes by RT-PCR; quantifying malignant blood disease genes

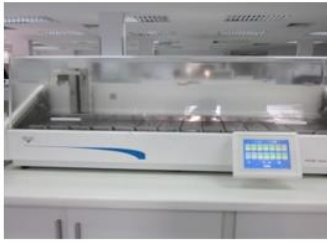


*NAT technique have installed at Blood screening department
(1): Cobas 6800; (2): Procleix Panther*

Pathology department can perform anatomical pathologies related to haematological diseases such as routine staining; Reticulin staining; Immunohistochemistry; cell staining on bone marrow tissues (bone marrow biopsy), lymphoid tissue, soft tissue (skin, muscle).

Molecular Genetics Department performs molecular genetic testing techniques such as chromosomal mapping; FISH technique (Fluorescent in situ hybridization); gene sequencing for alpha

by Real Time PCR; gene sequencing by the first generation sequencing technique (for gene segments <1kb) including BCR / ABL, FLT3, NPM1, cKIT, CEBPA, CALR genes, ..., JAK2V617F genes; JAK2V617F gene identification in myeloproliferative disorder using Allen- specific PCR technique; Imatinib resistance assays including T315I using Allen-specific PCR technique; Identification of engraftment (Chimericism) by the first generation gene sequencing; DNA testing on blood / hair / nail samples.



Modern equipment for examining at Pathology Department



System of equipment for examining at Immunology

Microbiology Department performs microbiological, fungal, parasitological tests, rapid dengue screening tests, hospital infection assessment tests.

Immunology Department performs different tests for blood transfusion immunology; hemoglobin, protein, immune antibody electrophoresis; HLA identification; HBVDNA, HCV-RNA, CMV-DNA quantification; autoimmune antibodies; CD34 stem cell counting; evaluation of perforin expression (2CD); pathological diagnosis involving plasmocytes; diagnosis and classification of acute leukemia (20CD); immunological CD analysis by Flow Cytometry.

In terms of human resources, the staff members have constantly improved their professional and occupational skills. Currently the total staff number of the labs is 96 people, including: Assoc Prof: 01; PhD Dr / Specialist Dr II: 05;

Master Dr / Specialist Dr I: 07; Doctors: 05; Masters: 08; Bachelors: 58; Technicians: 12. Our staffs have been internally / externally trained in Viet Nam and overseas: ISO 15189, Bio-security, internal / external quality assurance; advanced training in other countries: USA, Japan, France, Belgium, Taiwan, Singapore ...

From 2012, we have recognized the need to develop a quality management system for the whole hospital (including the labs) in order to improve our customer service quality. In 2013, we received the Quality Management

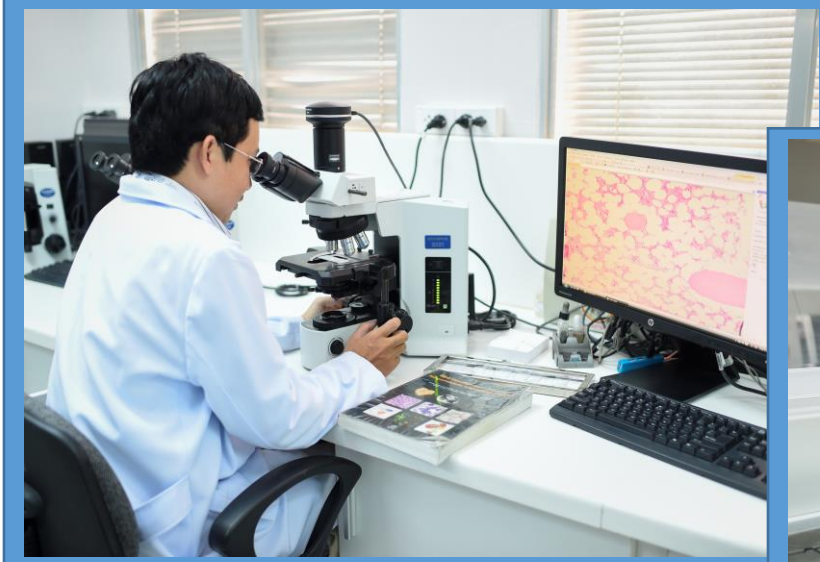
System (QMS) ISO 9001: 2008 certification; and in 2016



System of equipment at Bio - Hematology Department

we upgraded our QMS to the latest version of ISO 9001: 2015. The application and maintenance of the QMS have supported the hospital to further improve their customer service quality.

For our laboratories in particular, in 2015, the hospital



started to develop the QMS following ISO 15189: 2012. One year after the implementation, in 10/2016, we were honored to be certified for the quality management system for medical laboratories ISO 15189: 2012 in all areas: Hematology - Biochemistry - Microbiology - Biology - Pathology. The application of ISO 15189: 2012 assures an accurate and reliable delivery of test results, which acts as a basis for promoting the recognition of test results among hospitals and treatment facilities.

On internal and external quality assessment: involving in hematology, immunology and biochemistry, microbiology, molecular genetic external testing with other Quality control Centers (HCM City Quality control Center for medical laboratories); external assessment with other countries such as: Australia's One World Accuracy, Tsukuba University of

Japan, Pensacola Laboratory of USA, Bj-diagnostik GmbH laboratory of Germany.

In addition, we have established a network of passionate and creative quality management members in all departments, which can promote the effectiveness of the system management and maintenance.

The motto of our hospital is to continuously develop and strive to become a hospital meeting not only national

standards, but also international ones, ensuring both high service quality and patient satisfaction.

Achieving ISO 15189:2012 Medical Laboratories certification has assisted our hospital in further reassuring our reputation for excellent testing services. Please contact us if your hospital has the need for interlaboratory comparisons or reference testings.



Certificate quality system management of ISO 15189

Contact information:

Quality management department – Tel: (028) 39571342 (ext: 138)

Email: quanlychatluongbvtmhh@gmail.com

Website: www.bthh.org.vn

Bringing stem cells from Taiwan to Viet Nam for a young man's transplantation

Midnight Sep 20th, a stem cell bag from Taiwan arrived in HCM City after a 15 hour journey, which was for the transplant of a young man with blood cancer.

More than 7 months ago, a 25 year-old male banker in Ca Mau found many bleeding spots on the skin, and abnormal bruises after hitting the furniture. On May 15th, the patient was diagnosed with Juvenile myelomonocytic leukemia (JMML). This is a rare malignant blood disease with very poor prognosis, the average life span is about 20-30 months. Stem cell transplant is the only method that may cure the disease. However, the HLA test result of his only sister is not appropriate.

Taiwanese cell bank reported that there was a match for HLA 10/10. The volunteer donor was a 37-year-old man, weighing 79 kg and having the same group A blood as the patient. The doctors rushed into the stem cell transportation process for the first transplantation in Vietnam.

"Stem cells received require an immediate transplant, because they can only be preserved for 3 days but not frozen. Without a perfect coordination of both sides, the patient's life would be deadly critical" Dr Dung said. In preparation for stem cell transfusion, the patient must be given a medication seven days in advance to kill the cancer cells in the body. This infusion of the drug put the patient at risk that if the expected transplant date had gone by without stem cells, the patient might have died.

"Many concerns were raised, such as if by the scheduled day, the stem cell donor had been sick, or had unexpected troubles or changed their mind not to donate, what could we have done while our patient had already been given the drug", Dr Dung recalled. "The hospital chose two back up donors with less favorable matching rates,

only 9/10 from Taiwan, ready to donate if the 10/10 donor were not available. Our patient in Vietnam must be well taken care of, must not have a fever, or infection to ensure that he had the best health for the transplant.



Doctors and the patient in the hospital were ready to receive the stem cell bag. Photo: H.H

Dr. Phu Chi Dung, Director of HCM City Blood Transfusion Hematology Hospital, said that they had sent the patient's samples away to find appropriate stem cell donors with different bloodline at Tzu Chi Center in Taiwan. Fortunately, after 6 weeks of screening, the

During a chemo therapy, a multidisciplinary team took the mission to leave for Taiwan for the stem cells. The long journey was thousands of miles away, using different means of transportation such as airplane, car, speed boat ... The plan was carefully discussed, considering the safest transportation for each way, preparing backup plans for unforeseen events such as natural disasters, bad weather, train delays ... The stem cell bag transporting progress was constantly updated.



The patient was being transplanted with stem cells received from Taiwan. Photo: H.H

9:00 PM September 20th, a doctor team headed to Tan Son Nhat international airport to receive the stem cell bag. Our hospital crew and the patient was ready to get the package. 10:35 PM, the customs clearance at the airport was completed with the support of many regulatory authorities. Less than an hour later, the stem cell package came to the hospital after a 15-hour journey from Taiwan. At 11:30PM September 20th, each checked stem cell line was transmitted directly into the patient's body, marking the first hematopoietic stem cell transplantation from peripheral blood of different bloodline in Viet Nam.

According to Dr. Phu Chi Dung, if a suitable donor in the family could not formerly be found, many patients would have had to go abroad to find a suitable source of stem cells. The cost of transplant in Singapore is 10 times higher than in Vietnam and that number in Taiwan about 5 times higher. We thought of a solution to seek for donors from foreign countries to meet the demands in Viet Nam and decided to choose

Tzu Chi Cell Bank of Taiwan. Taiwanese people's blood line is highly compatible with Vietnamese. This leading Asian Stem Cell Center has provided treatment facilities in 30 countries around the world with a total number of 4,498 patients having received stem cells.

The total cost of this transplantation in Viet Nam was 847 millions dong, and 530 millions were covered by Vietnamese Health Insurance. The expenses in Taiwan were more than 15,000 USD, paid by HCM City HBTH. Although stem cell donors are completely voluntary, the screening tests cost was quite high. The success of this transplant has opened the opportunity to cooperate with the stem cell banks in the world to find suitable donating sources for Vietnamese people, creating a foundation for the establishment of a national stem cell donation system in Vietnam.

Nearly two months after the transplant, our patient has been stable, and lab results determining the percentage of engraftment (Chimerism) have shown that 100% of cells were donor's stem cells. "My brother from afar has given me the opportunity to live a second life to continue my uncompleted dreams. I just want to meet him once to say thank you" said the patient emotionally. As a principle, donors and recipients do not meet each other. This is the first stem cell transplant from different bloodlines in Vietnam, and also for the very first time, stem cells for transplantation were donated by an individual overseas and shipped to Vietnam.

Hematopoietic stem cell transplantation is the most radical treatment, the only opportunity for patients with benign and malignant blood disease to be cured and return to their normal life. In 1995, Ho Chi Minh City Hematology and Blood Transfusion Hospital conducted the first bone marrow transplant in Vietnam. After recovery, the male patient returned to work, got married, gave birth to two healthy children. In 2002, the hospital performed the first umbilical cord stem cell transplant in Vietnam. In April 2013, the first HLA half-matching allogeneic transplant was performed successfully.

By Le Phuong/ Vnexpress

IRON – DEFICIENCY ANEMIA

IRON – DEFICIENCY ANEMIA

Iron deficiency anemia is a common disease in the world, encountered in all regions, but with a high rate in poor countries. The disease can occur at any age and in both sexes, but childbearing women and children account for a higher proportion.

I. Overview

- Iron is one of the most important trace elements found in almost every organ of the body: hemoglobin (Hb), myoglobin and some enzymes. It is involved in metabolism processes such as oxygen transport, DNA synthesis, electron transport, etc.

- Iron deficiency occurs when iron concentration in the body is lower than normal.

- Anemia is defined as a decrease in healthy red blood cells or hemoglobin in the circular, depending on ages and sexes, and according to WHO, anemia occurs when:

- Hb < 11g/dL in pregnant women
- Hb < 12g/dL in females (≥ 15 y/o)
- Hb < 13g/dL in males (≥ 15 y/o)
- Hb < 12g/dL in children 6-14 y/o
- Hb < 11g/dL in children < 6 y/o

II. Causes:

There are many different causes of iron deficiency and they are classified as followed:

- **A lack of iron supply:**
 - Children are nourished by cow's milk, or not fed properly.
 - Misconceptions about nutrition, lack of animal derived food

- Premature babies, twins, lack of iron reserves
- Diet
 - Increased iron need: children in puberty, menstruation, pregnancy, breastfeeding.
 - Decreased iron absorption:
 - Chronic gastrointestinal diseases: gastritis, enteritis; gastrectomy, intestinal resection; prolonged diarrhoea; malabsorption syndrome
 - Eating some food that reduces the absorption of iron, such as tannin, phytate in tea, coffee; carbonated drinks...
- Acute or chronic blood loss
 - Gastrointestinal bleeding, hemorrhoids...
 - Hookworm infection
 - Menorrhagia
 - Paroxysmal Nocturnal Hemoglobinuria
 - Iron distribution disorder: infections or cancers

○ Unknown cause: usually in young women from 18 to 25 y/o

III. Symptoms:

- Patients with iron deficiency anemia often have many symptoms such as pale skin, pale mucosa, pale tongue, smoothness due to loss or worn out of lingual papillae, fragile fur, hair, nails. The patient feels tired, dizzy when changing

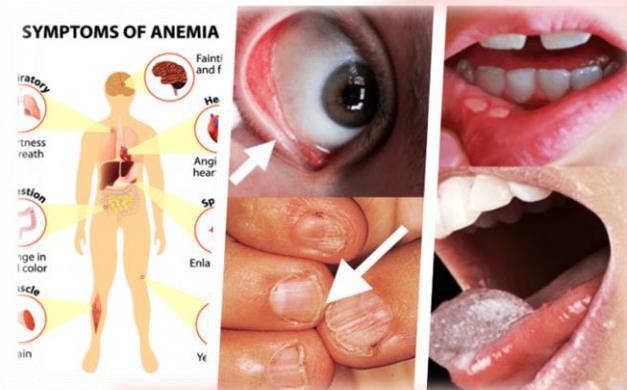
posture, chest tightness, reduced ability to work physically and mentally.

- In terms of clinical symptoms, anemia occurs slowly in 3 stages:

- Stage 1: Only iron reserves decrease so patients are not anemic, they often have some symptoms of iron deficiency.



- Stage 2: Iron reserves become depleted and iron distribution decreases, patients are not symptomatically anemic, but have some symptoms of iron deficiency causes, starting to have symptoms of iron deficiency such as loss of



concentration, lethargy...

- Stage 3: Anemia, patients have symptoms for both anemia and iron deficiency. However, the boundaries between stages are not clear.

IV. Tests:

- Tests to determine the level and nature of anemia: Red blood cell count, hemoglobin and hematocrit decrease levels, mean corpuscular volume (MCV) level.

- Iron deficiency test: decreased serum iron, decreased ferritin, increased transferrin; total iron-binding capacity increased; decreased transferrin saturation.

- Some tests looking for the cause: endoscopy, colonoscopy, abdominal ultrasonography, intestinal parasites (hookworm eggs in the stool); CD55, CD59 (to diagnose Paroxysmal Nocturnal Hemoglobinuria)

V. Diagnosis:

Based on: clinical symptoms and lab results:

- Complete blood count: microcytic anemia
- Biochemical tests: ferritin <30ng/mL and transferrin saturation <30%

VI. Treatment:

- Avoid blood transfusion, only transfuse in case of severe anemia, decompensation.

- Find the causes and solve the causes

- Provide enough iron for pregnant women, breastfeeding; premature babies, twins.

- Worm eradication.

- Preventing bleeding: gastrointestinal, genital...

- Supplement with iron formulations intravenously or oral solutions, tablets, encourage the use of oral iron supplements. Intravenous iron is indicated in the following cases:

- Severe and very severe iron deficiency anemia;

- The body does not absorb orally taken iron: gastrectomy, intestinal resection, congenital disease

*Oral iron supplementary products:

Ferrous sulfate; ferrous gluconate; ferrous fumarate;

- Dosage: 4-6mg iron/kg/day

- Duration of therapy: 3 months – 12 months.

Cautions: The medication is best taken on an empty stomach, however if having a sensitive stomach, you can take it with meals. Black stool, constipation (not due to gastrointestinal bleeding)

- Adjust your diet with more iron and add vitamin C or citrus/lemon juice to increase your iron's absorption.

- Diet containing liver, blood, beef, blood cockle, beetroot, dark green vegetables such as spinach, convolvulus, green broccoli

- Do not drink tea.

Iron deficiency anemia prevention:

- Health education,

nutrition education

- Breastfeed your baby, feed with enough nutrition from the 6th month

- Full diet, iron-rich foods for pregnant mothers

- Premature babies, lack of breastmilk: use milk, foods with iron supplemented

- Prophylaxis with iron preparations

- Treatment of the causes of decreased iron absorption, worms, diarrhoea...



CHIMERIC ANTIGEN RECEPTORS (CAR) BINDING MODIFIED T-CELLS

Prof. Huynh Nghia

Deputy head of Medicinal Department
Ho Chi Minh City Medicine and Pharmacy University

Relapsed or refractory acute and chronic leukemias and B-cell Non-Hodgkin's lymphomas are still a challenge for our medical science.

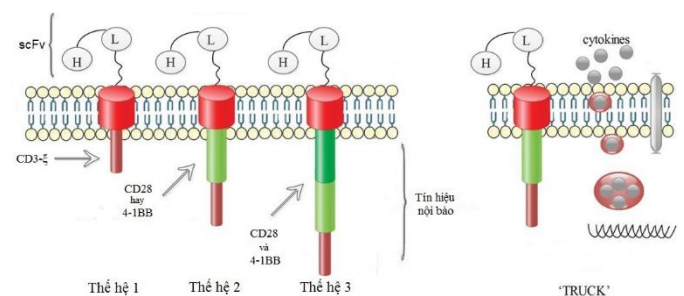
Targeted therapy in cancer treatment (such as imatinib) has been considered as an effective treatment by using the patient's own immune system to destroy malignant cells. Many different cancer therapies exploit the immune system to kill tumor cells including monoclonal antibody, immune modulator-checkpoint inhibitor, hematopoietic stem cell transplant and Chimeric Antigen Receptors (CAR) binding T-cells. Among those therapies CAR binding T-cell therapy induces a completely new receptor that detects cancer cells escaping from the immune system (when these tumor cells are not express antigens on the surface or produce an intermediate chemical that kills T cells or cause T cells not to recognize the antigen of the tumor)

Structure and functions of CAR-T¹

CAR is a mosaic protein composing of an antigen recognizing element (scFv) on the surface and the rod portion is the intracellular signaling complexes such as CD28 / 4-1BB (CD137), in combination with CD3- ξ to activate T cells. CAR is encoded in viral vectors and transferred to T cell nucleus, resulting in

permanently altered genomes. Thus, CAR proteins are continuously expressed during T-cell proliferation.

1st to 3th generations of CAR carry the intracellular signals attached to many elements that help to increase T-cell toxicity, proliferating ability, cytokine production, resistant to inhibitors of the local micro-environment of the tumor and survive longer in the body. 4th generation of CAR (TRUCK) directly carries cytokines and these cytokines will be released as soon as it reaches the cancer cells, before the cancer cells can recognize T cells (**Figure 1**).



GS. Huynh Nghia. Trình bày tại HT Oncoday (Novartis, 12/8/2017)

Figure 1. Structure and different generations of CAR

When CAR-T locates the cancer cells by recognizing the antigens of scFv, it will activate the gene's activation via a special cellular signalling mechanism, converting toxin-producing genes, releasing granzymes to destroy cancer cells and interferon cytokines strongly

affect other immune cells. In addition, antigens also stimulate T-cell reproduction and some become memory T-cells.

CAR-T cell is considered a "living drug" because it is able to proliferate, maintain T-cell functions and it is ideal to produce memory cells that prevent tumor recurrence. Unlike monoclonal antibodies, CAR-Ts actively seek cancer cells to kill, so its performance is usually higher.

CTL019 therapy for the treatment of B cell hematological malignancies

In malignant blood pathologies, CD19, expressed in most B-cell lymphocytes but not on B-stem cells and cytoplasm, should be selected as a marker for the targeted therapy. Therefore, CD19-directed CAR-T cell therapy (CAR-T19, CTL019) has been developed. The CTL019 treatment was performed for about 10 days, beginning with the collection of the patient's T-cells, transferring the CTL019-encoding genes into the T-cells, then the T-cells containing CTL019 proliferated outside the body. These T cells were then transmitted back into the patient after receiving lymphocyte killing chemotherapy. The amount of T cells introduced into the body varies according to the types of diseases being treated.

Porter and colleagues have demonstrated that CTL019 cells can proliferate rapidly, survive in the body for a long time, and have a strong tumor resistance in patients with chemotherapy-resistant chronic lymphocytic leukemia (CLL). Phase 1 studies have shown that CAR-T19 is safe and effective in relapsing and refractory non-Hodgkin's lymphoma (ZUMA-1 study) and in relapsed acute lymphocytic leukemia (ALL) (study of Brentjen).

A total of 58 studies using CAR-T19 has shown a clinical response in 81% of ALL patients, 50% in CLL and 40% in NHL. Potential factors affecting clinical outcomes may be vector designs, conditions of the management, number and quality of CAR-T cells. The adverse effects reported through the studies included cytokine

release syndrome, B cell dysplasia, tumor destruction syndrome and central nervous system toxicity.

Especially, in relapsed and refractory non-Hodgkins lymphoma group which had failed to respond to rescue regimens or could not have a transplant, CAR-T therapy was quite spectacular. Phase 1 trials confirmed the chemotherapy doses and CAR-T cell count was used in stage 2 of the trial. The major analytical results of the Phase 2 trial of ZUMA-1 were reported at the Annual Meeting of the American Cancer Research Association in 2017 and the results were very positive. Of the 101 patients, 82% was treated with ORR and the complete response rate was 54%.

Summary

CAR-T therapy has created a completely new receptor that can detect cancer cells that have escaped from the immune system. This is a new immune therapy in the treatment of cancer, which is being studied and developed.

The use of CD19-directed CAR-T cells (CTL019) has been evaluated in several studies. The initial results have created a promising breakthrough in the treatment of relapsed and refractory blood diseases such as ALL-CLL, NHL after standard / high-dose chemotherapy or stem cell transplant.

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SOME MEASURES TO ENSURE BLOOD TRANSFUSION SAFETY IN NURSING PRACTICES

Blood transfusion is a procedure that requires absolute safety, however just like many other clinical procedures, it presents potential clinical complications. A number of studies has documented incidents and complications occurring at all stages of a blood transfusion process, especially at the blood transfusion phase conducted by a nurse. In this article, we highlight some potential complications from blood transfusions of nurses and how to deal with and prevent them.



Risks	Preventions
Acute hemolytic transfusion reaction due to incompatible blood types	Always check, reconcile: 05 Rights and blood bag information before transfusion
	Write name, age, address or patient ID on the blood test tube at the time of blood sampling, do not use old blood samples with unclear information.
	Always identify blood type and perform cross-reaction at bedside, right before transfusion, 02 readers. Record blood type confirming evidences at bedside according to hospital regulations - Only transfuse when the doctor has read the blood type at bedside and write the command. - Watch the patient closely for the first 15 minutes, stop the infusion immediately and report any abnormal signs to the doctor.
RBC bursting	Put blood bags in a cold storage bin and transport blood bags gently when receiving blood bags, correcting blood shaking technique.
	To warm blood, we must have equipments that meets the requirements of temperature and infection control. Warm the blood transfusion line if a fast and large volume transfusion is required (over 50 ml / kg / hour in adults and over 15 ml / kg / hour in children). The incubation temperature does not exceed 37oC (do not soak the blood bag in very hot water, not sterile)
	Do not use small needles then apply pressure to pump (should use the needle 16G to 18G for adults, 22G to 24G for children).
	Do not transfuse blood using a transfusion machine.

Embolism due to blood clots	Clear "air" properly, do not let air bubbles get into IV line, abandon the "needle flush" technique. Use blood transfusion line, do not use saline infusion line, or blood draw and direct injection must be done using syringes, blood must always pass through the filter before transfer.
Anaphylactic shock	<ul style="list-style-type: none"> - Adjust slow speed in the first 15 mins - Always obtain allergy history and prepare an anti-shock box
Acute pulmonary edema	<ul style="list-style-type: none"> - Monitor high-risk patients closely. - Transmit at a correct speed ordered (asking the patient not to self-adjust, and check speed frequently)
Infections	<ul style="list-style-type: none"> - Ensure proper sterilizing technique for blood transfusion - Do not leave blood bags at room temperature for more than 30 minutes before the transfusion and the transfusion time should not exceed 4 hours (including pause time) - Blood transfusion line must not be used to continue fluid infusion. - Do not use blood transfusion line for more than 12 hours, preferably one line for each blood bag. - When defrosting some frozen blood products in a water thawing machine: Use sterilized water and do not put the needle contact point on the blood bag directly in water. (put the blood bag in a waterproof bag and upright the bag).

Management of abnormal symptoms:

- Stop the transfusion immediately, keep the emergency line with NaCl 0.9%.
- Check the blood type of the patient and the blood bag.
- Report to a doctor => Carry out orders, manage symptoms.
- Monitor vital signs (pulse, blood pressure, breathing, body temperature) and other signs depending on the case.

Nurse. Le Thi Son

FEEDBACKS ON NURSING JOBS

Nowadays, people tend to ask for things that are not possible from physicians or nurses, but few know the hard work they are undergoing.

Is a nursing job easy to do?

"Have to please everyone" is a way of saying when people talk about **nursing** because the nature of their work is to take care of the patients in the most passionate way.

Nurses do not only need to acquire high professional skills but also the listening skill, to understand patients' various types of emotions as well as their different medical conditions. The nurses do not have to suffer from others' pains so without the love for others, it's very difficult to pursue this job.

Each patient has a different personality, and is psychologically affected because of their diseases. So, it is extremely hard to stay close and understand the psychology of the patient, know what they want. In addition to their daily tasks such as monitoring, changing patients' medications, checking patients' status, charting ... Nurses should always spend time talking to and comforting the patients as well as their family members, reassuring them of a quick recovery for them. They love the patients as their family members

NUTRITION IN HEMATOLOGIC



Today, dieting has become a daily habit for many people. Therefore, when being sick, people are more and more concerned about their eating; and hematologic patients treated at Blood Transfusion Hematology Hospital are no different.

Patients treated here and their relatives will be taken care of in regards of nutritional issues by our clinical doctors and staffs in our Nutrition and Dietetics Department ... Disease-based modified diet will help patients increase their immune system to some extent, ready to enter the high-dose chemotherapy stages, prior to stem cell transplant..., and nutritional care during their hospital stay also help them boost their health, minimize malnutrition risk, maintain weight and speed up the recovery after a chemotherapy or after a stem cell transplant.

However, it is not that all patients or their relatives know how to have a good and appropriate diet. So what diet is reasonable for patients with hematologic disease?

ENSURE FOOD SAFETY

The most important thing in eating during hospitalization is that patients/ relatives have to ensure food hygiene and safety: eat cooked food and drink boiled

DISEASES



water, select fresh and clean branded food with good dating.

Eating cooked food is to use carefully cooked food, including leafy and root vegetables; with fruit, it is a good idea to choose the ones with a thick shell to ensure food safety, carefully wash and peel the shell before eating, if possible boil them such as boiled banana, boiled fruit in syrup...

Drinking boiled water is the use of boiled water to cool and drink gradually within 24 hours. After 24 hours, if not used up, the water should be discarded and replaced.

It is recommend to choose fresh, intact food, do not use food that has been damaged, smelly, not intact like broken chicken eggs, cracked duck eggs; other damaged or spoiled food...; for milky products or dairy products, sterilized products are preferred; sterilized juice.

Home-made formulated yoghurt should be used to ensure the safety of the patient.

Note: patients must use separate personal items, their food containers must always be clean and made of safe materials

such as good porcelain, stainless steel.

ADEQUATE NUTRITIONAL DAILY INTAKE



Ensure the supply of 04 groups of substances: protein; fat; carbohydrates and vegetables, fruit in the daily meals, so that the body has enough energy to maintain its functions.

Protein group: Provides an energy source for the body, maintains and regulates tissue functions. Inadequate protein supply may lead to protein deficiency, muscle atrophy, malnutrition, decrease in blood albumin. Protein supplies include animal proteins (meat, fish, eggs, milk ...) and vegetable proteins (tofu, beans). The recommended amount of daily protein intake is 1.25 g / kg / day in adults, except for those with additional kidney disease, in which the protein intake will be reduced.



A minimum of 50% animal proteins should be used in the total protein intake, this animal protein ratio in the diet should be higher in younger children.

Fat group: It is supplied mainly from vegetable oils such as rapeseed oil, olive oil, soybean oil, sunflower seeds, hazelnuts, avocados ... and animal fat such as fish fat, meat fat. Fat is an abundant source of energy for the body: 1g of fat can provide 9 kcal while 1 g of proteins, 1g of carbohydrates can only produce 4 kcal. In addition, an adequate fat supply also helps the body absorb some fat-soluble vitamins such as vitamins A, D, E, K. In adults, the daily need of fat is 40-60g.



Carbohydrate group: such as rice, rice noodles, “phở”, corn, potato, bread, whole grains ... The daily requirement of this group is about 300 - 325g per day in adults.



Fruit and vegetable group: Provides essential vitamins for the body such as vitamins A,B,C,D,E,K and minerals such as sodium, potassium, zinc, magnesium, iron..., even though these only account for a small amount in the body, they have very important roles in the body. The daily requirement of an adult is: 300 - 400g of vegetables, 100-200g of fruits, 2,400g of sodium per day.

In addition to the main food groups mentioned above, the body also needs to have an adequate amount of fiber (from 15 to 25g per day) and enough water from 2 to 2.5l per adult per day.



Patients should be provided with a variable diet, the menu should be changed every day so that they can use all of the nutrient supplies from a variety of food sources.

It should be noted that patients should not use fermented foods, alcoholic or carbonated beverages, irritated foods, mineral water ...

ADJUSTING DIET BASED ON DISEASE SYMPTOMS

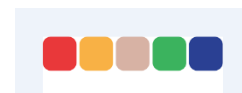
When a patient develops symptoms such as nausea, vomiting, anorexia, fatigue,

lingual crack, elevated pancreatic enzymes, decreased blood albumin, etc due to a disease, medication side-effects or a poor diet, your doctor will evaluate their nutritional needs to plan for a timely nutritional intervention for them.

Patients and their relatives should adhere to dietary regimens when hospitalized according to the instructions of the treating doctor, nutrition and dietetic specialists to improve the immune system of the body, which can assist them in the treatment of their hematologic diseases.

Besides, patients should frequently do gentle exercise, which should be suitable for their conditions, to help the body be active and relaxed, as well as have a better appetite.

“Diet properly to live better every day” is the message that the Nutrition and Dietetics Department would like to send to all patients being treated at Blood Transfusion Hematology Hospital.



NB. Doan Thi Phuong Dung
Nutrition and Dietetics Department

THE APPLICATION OF ELECTROMAGNETIC

I. The importance of ensuring the security of radioactive sources

People in the world have seen some radioactive source incidents due to a loss of control leading to many accidents with serious consequences.

In 1996, Taiwan found 1206 apartments and some schools affected with Co-60 radioactive substance. This was due to the use of steel contaminated with radioactive materials from the source that was lost and mixed in metal waste. About 6,000 people were exposed to radiation because they lived in contaminated houses (from 1 to 10 years) at the dose greater than the allowed limit.

The accident in Goiania, Brazil involving the breakage of an uncontrolled radioactive source was costly to remedy the problem: US \$ 20-35 millions and the resulting major economic impact was estimated to take 10 years for the city to recover.

In Vietnam, there have been many incidents of insecurity leading to the loss of radioactive sources: the incident occurred at Viet Trung Cement Joint Stock Company in 2003; the loss of radioactive sources at Song Da Cement Plant, belonging to Song Da Cement Joint Stock Company in 2006; Radioactive sources were broken and disrupted at Vietnam Institute of Atomic Energy (VIAE) in 2006 and recently radioactive source thefts at APAVE Asia-Pacific Ltd. (Tan Binh district), HCM City in 2014, at Ponima 3 Company, Ba Ria - Vung Tau in 2015, and at Bac Kan Cement Joint Stock Company in 2015.

It is therefore important to strengthen security controls for radioactive sources to stop

malicious uses and to prevent the possible consequences of loss of control over particularly important radiation sources.

LOOKING TECHNOLOGY IN RADIOACTIVE SOURCE SECURITY

II. Applied magnetic locking technology at the hospital.

Magnetic lock technology is widely used in the control of door systems. Basically, a door control system will consist of the following

main components: central controller, electromagnetic lock, card reader / fingerprint reader, exit button, emergency exit button, , software control ... all will be connected to the computer through the network wires and electric wires to manage the input and output.

Figure 1. The design of a door control system

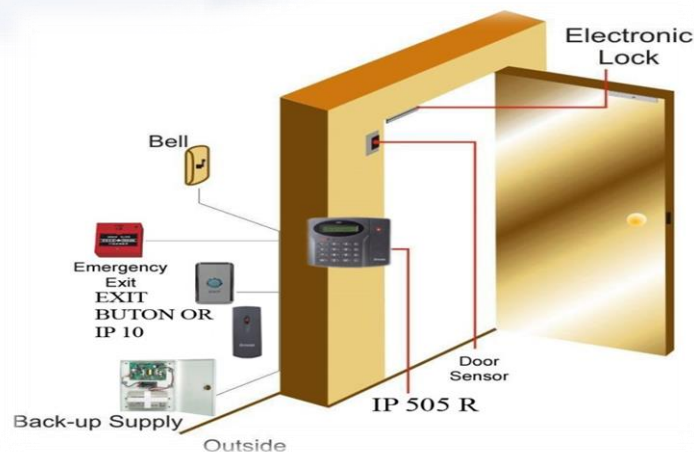


Figure 1. The design of a door control system

At Blood Transfusion and Hematology Hospital, the responsibility of ensuring the security of radioactive sources is always at top priority. Thus, the Hospital has coordinated with the Department of Radiation and Nuclear Safety to install a security warning system for radioactive sources which are being used and stored at the Hospital.

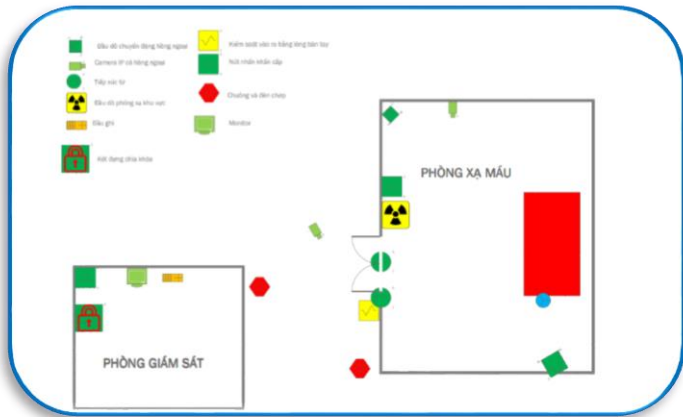


Figure 2: Design of the security system for radioactive sources

The security system is designed based on the principle of magnetic locking technology. Specifically:

At the entrance area of the facility where the radioactive source is located is equipped with electromagnetic lock and palm access control system. Inside the radiation storage room, CCTV is installed with infrared IP and infrared motion detector which is connected to monitor system and the data is recorded to ensure the security of radioactive sources. At the Department of Administration, the key for data recorder and the central control system is kept in the safe box. In addition, the security of radioactive sources is enhanced by the addition of a surveillance camera outside the radiation room which is connected to the central management system.



Figure 3: The entrance area and inside the radiation room. the safe box



Figure 4: Monitor screen, Central system cabinet, warning light and siren.

For radioactive sources, the storage cabinet is double protected by a system of electric locks and steel locks. The key of the cabinet is kept directly by the person who is in charge of radiation safety at the hospital. The electromagnetic locking system, on the other hand, is controlled by the hospital's central system.

III. The benefits of ensuring the security of radioactive sources

Applying the technology of magnetic lock helps to ensure the security of radioactive sources in the hospital more effectively.

For radioactive sources in use: Access to the radioactive blood screening room for operating staffs in the Department of Synthesis and Distribution is controlled by palm-fingerprint. Only employees who have registered fingerprints can gain access to the radioactive sources, all unauthorized intrusion will be alerted through the bell and flashing light system installed at the Faculty as well as at the Hospital Security Office.

For radioactive sources stored at the warehouse: Any opening operation of the radioactive storage room will activate the magnetic locking and alarm systems together with the flashing lights at the management and Security office. At the same time, a text message (SMS)/phone call from the 24/24 professional security service will be sent to the person who is in charge of radiation safety at the hospital to confirm the legitimacy of access.

The user, safety manager and security can continuously update the status of radioactive sources as well as be warned about the security of these sources and manage the radiation safety. The security system satisfies the requirements of Department of Radiation Safety, which contributes to ensuring the safety for all staffs in the hospital and people in society.

Over 30 years of operation and development of Ho Chi Minh Blood Transfusion and Hematology Association

The *Ho Chi Minh Blood Transfusion and Hematology Association* was held on 26/12/1985 in Ho Chi Minh city (HCMC) and being recognized by HCMC Medical Association according to Decision No. 131/BCH/CK dated 19/02/1986, signed by Dr. Duong Quang Trung, which has been in effect for more than 30 years up to now.

In over 30 years of establishment and development, the *Ho Chi Minh Blood Transfusion and Hematology Association* (referred to as the Association) has celebrated 6 congresses and contributed to the development of health sector in HCMC. With the principle of gathering, uniting and encouraging scientific and technical personnel specialized in Blood transfusion - Hematology

in all fields of activity and of all economic sectors, to study, participate in the development of Blood transfusion - Hematology science and Technology, help each other to improve professional knowledge and skills, practice in accordance with the standards of service and morality, contribute significantly to protect and enhance people's health against disease. Continuously improve the technical expertise of Blood transfusion - Hematology personnel and

tighten the relationship between members in all specialized training. At present, the Association has produced great achievements such as successfully organizing seminars, conferences in blood transfusion - hematology for doctors and patient relatives such as Thalassemia, Hemophilia, Stem cell transplantation conferences... as well as trainings in the field of blood testing and transfusion. Following the successes in training and transferring technology of "blood-stem cell transplantation" for 06 hospitals in Vietnam including Danang Cancer Hospital; Cho Ray Hospital; Nghe An Cancer Hospital; Bach Mai Hospital; Hue Central Hospital; Ho Chi Minh Cancer Hospital, the Association, in collaboration

with the Blood transfusion - Hematology Hospital, has successfully operated the training course on "Blood-stem cell transplantation" for a group of 6 doctors from



Ho Chi Minh Blood Transfusion and Hematology Association , term VI - 2017

Calmette Hospital, Cambodia. This is a landmark for the development of Blood transfusion - Hematology Science in general and for the field of stem cell transplantation in specific as it was recognized by International experts. . Recently, the Blood transfusion - Hematology Hospital has established the Hematology Clinic at An Giang General Hospital. In addition, the Association has successfully conducted the operation to transplant

peripheral blood stem cell in patient with lymphoma on July 2017.

In the field of scientific research, the project "Evaluate the efficacy of using frozen red blood



The first bone marrow transplant in Vietnam in 1995



The first frozen blood stem cell transplant in Vietnam in 2005

cells in HCMC", in which by preserving erythrocytes at - 80 degree Celcius with concentrated glycerol, the blood can be stored for up to 10 years compared to conventional methods which can only save for up to 42 days, was awarded in the 14th KOVA celebration on "creation category" in 2016. This is a category for breakthrough scientific research which has been applied and recognized to be highly effective in terms of socio-economy for the doctors and clinics of HCMC Blood transfusion and Hematology Hospital. Indeed, in the recent years, a lot of international conferences which gather many famous scientists, including both national and international, have been successfully organized. These activities have not only indicated the significant development in the field of Blood transfusion - hematology, but also offered many opportunities for experience and knowledge exchange, such as the Vietnam-France stem cell transplantation conference or the Broaden Southern Blood transfusion - Hematology Conference and the APBMT Conference. In addition, the Association also accompanies with the Blood transfusion - Hematology Hospital training

and transferring stem cell transplantation technology for Cambodia doctors.

Besides, many advanced methodologies have been successfully applied and made great breakthroughs for the development of Blood transfusion - Hematology. Specifically, the most remarkable events includes the first bone marrow transplant in Vietnam in patients with myeloid leukemia in 1995, the first peripheral blood-stem cell transplant in patients with acute myeloid leukemia in Vietnam in 1996, the first umbilical cord blood stem cell transplant in patients with acute lymphoblastic leukemia in 2002, the first frozen stem cell transplant in 2005, the first Haplo transplantation in Vietnam in 2013, the first peripheral blood-stem cell transplantation in patients with high-risk of neuroblastoma in 2015, the first blood-unrelated peripheral blood-stem cell transplantation in patients with CMML in September 2017.

Over thirty years of operation is a long



The first Haplo transplant in Vietnam in 2013



The first blood-unrelated peripheral blood-stem cell transplant in patient with CMML in Vietnam in 2017

journey remarked with many efforts from the Executive Board and the members of the Association.

Nguyen Thi Phi Yen

ESSENTIAL INFORMATION ABOUT HEMOPHILIA SYMPTOM



Dr. Nguyen Thanh Phong

1. What is hemophilia?

Hemophilia is a disorder of blood coagulation. Coagulation is a process by which blood changes from fluid to solid state to prevent bleeding. This is a relatively rare disorder, which has a rate of approximately 1/10,000. Patients do not bleed faster but bleed longer than normal, which results from the lack of blood clotting factor.

The rate of Hemophilia in the community is 2/34830 people (equivalent to 25-60/1 million people) in which Hemophilia A is predominant while Hemophilia B and severe Hemophilia account for only 13.16% and 25% respectively. It is estimated that there are about 6000 patients nationwide, however only 1/10 of them are detected and received appropriate healthcare.

Hemophilia is a lifelong disease but with proper treatment and self-care, most of the hemophilia patients can have a normal life.

2. Causes:

Patients with Hemophilia suffer from births due to genetic disorders from

their mothers or fathers, or from both. However, about 30% of the patients have no family disorder's record. These cases are thought as due to the normal gene mutates and transforms into disease gene, and the mutated gene are inherited for later generations.

The cause of Hemophilia is the deficiency in blood clotting factors. Different types of Hemophilia are categorized based on the coagulation factor lacked of, specifically:

Hemophilia A: This is the most common form of Hemophilia, due to the lack of blood coagulation factor VIII.

Hemophilia B: This is the second most common type due to the lack of coagulation factor IX.

3. How is hemophilia inherited?

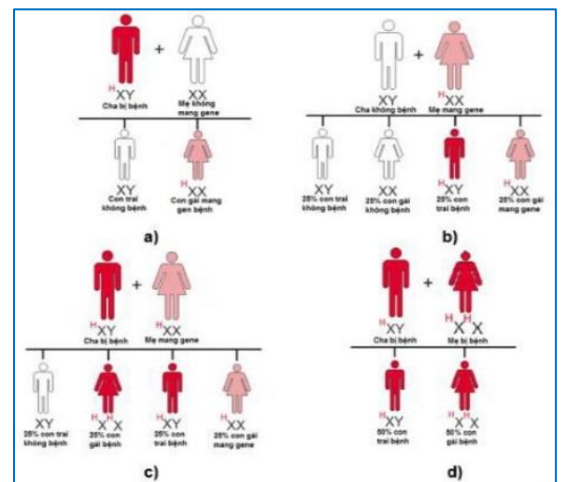
Each person has two sex chromosomes, inherited from a mother and a father. A female inherits an X chromosome from her mother and an X chromosome from her father. A male inherits an X chromosome from his mother and an Y chromosome from his father. The hemophilia A or B gene is located on the X chromosome.

Hence, if father suffers Hemophilia and mother does not, then all boys are not (case a).

If mother carries the disease gene but father does not, then the child will have the rate of 25% of boys have hemophilia disease, 25% of boys do not, 25% of girls carry disease gene and 25% of girls do not (case b)

A father with hemophilia and a mother carries disease gene in one X chromosome, then when giving birth to a child, 25% of the boys will have hemophilia, 25% of boys do not, 25% of girls carry the disease gene and 25% of girls suffer Hemophilia (case c).

Female only suffer hemophilia when father suffer Hemophilia and mother carries the disease gene (as case c) or mother also suffers hemophilia (case d)



In general, the blood clotting levels range from 50 to 150%. Depending on the concentration, hemophilia is divided into three levels:

Mild (>5-40%): Usually does not bleed unless surgery or severe injury.

Medium (1-5%): Bleeding after surgery, small wound extracted teeth. Bleeding once a month. Rarely bleeding without reason.

Severe (<1%): bleeding in the muscles (legs, thighs, arms, pelvic muscles), joints (knees, elbows, ankles). Bleeding 1-2 times a week. Bleeding without reason.

4. Signs of hemophilia ?

Hemophilia A and B have the same symptoms:

- Large skin lesions
- Bleeding in the muscles, joints, the most common are the knees, elbows, ankles, causing pain, swelling and difficulty in moving joints.
- Bleeding can occur spontaneously or after crashing.
- Long-lasting bleeding after a cut, tooth extraction, surgery
- Long-lasting bleeding after an accident, especially head trauma.
- If the disease progresses for a long time, it may cause deformation of joints, limitation in mobility.

5. Where does bleeding usually occur ?

Common positions are arms, elbows, forearms, thighs, knees, ankles, lumbar muscles and leg muscles.



Some cases may cause bloody stools, black stools, bloody urination...

6. How is the disease diagnosed ?

- Clinical: the symptoms which have been described in section IV
- Family history records: according to the pedigree diagram described in section III.
- Medical tests:
 - Normal platelet counts
 - Normal PT
 - Normal fibrinogen
 - Prolonged APTT, modified APTT
 - Normal von Willebrand factor
 - Normal TS bleeding time
 - Normal blood clotting test.
 - Coagulation factor VIII (Hemophilia A) or coagulation factor IX reduces below 40 %, (Hemophilia B).

7. When should the treatment be performed ?

In countries with proper conditions, patients should be given prophylactic treatment. In countries which do not have sufficient conditions, patients should be treated as soon as symptoms of hemorrhage or arthralgia appeared.

Treat as soon as possible !!! (Preferably to be supplemented with coagulation factor within 2 hours since the appearance of hemorrhage).

Patients have to be treated for signs of bleeding, bruising, swelling joints. In addition, patients must be undergone pre-treatment before surgery, including tooth extraction and operations which can cause bleeding.

For patients with family record of hemophilia, it is necessary to determine the genetic characteristics of the woman for pre-born diagnosis and give appropriate genetic counseling.

Lifestyle, problem solving and notes:

- Practice exercises for patients with hemophilia. Doing exercise regularly. Activities such as swimming, biking and walking can help to build up muscles while protecting joints. Playing sports like hockey, football or wrestling.. are not safe for Hemophilia patients.
- Absolutely not taking aspirin (acetylsalicylic acid). Medicines which can aggravate bleeding including aspirin and nonsteroidal anti-inflammatory medicines (Advil, Motrin ...) Instead, using acetaminophen (Tylenol...), is a safe alternative for mild pain relief. In addition, avoiding some blood diluting medicines such as heparin and warfarin (Coumadin)

- Must not inject intramuscularly, only taking medicines orally or by injecting intravenously.

- Normal immunization (injecting under skin)

- Progressing dental examination periodically according to dentist's advice.

This can help to prevent the need for teeth extractions,

muscle or joint. A brace can be used to temporarily immobilize the bleeding muscle/joints and use of moving aids such as crutches or wheelchair.

- ✓ **Ice:** ice packs can have effect on **vasoconstriction** and reduce inflammation, thereby reducing pain.

duration of 20 minutes for each 4-6 hours until pain and swelling reduced.

- ✓ **Compression:** should be apply as soon as the bleeding starts. Compression helps to increase the pressure in the joints and muscle to reduce bleeding. However, caution should be taken in case of heavy intramuscular bleeding at late stage as high pressure can cause damage to blood vessels and nerves.

- ✓ **Elevation:** helps to reduce blood pressure at the site of injury, hence reducing pain and swelling.

- ✓ Use knee pads, elbow pads, helmets and safety belts when carrying out activities that can cause injuries or fall. In addition, avoid using sharp-edged furnitures and keep sharp objects out of children reach.



which can lead to excessive bleeding.

- Always bring patient card and note the medical staff if you suffer hemophilia and the type of blood clotting factor which you usually use.

- Perform RICE for musculo – articular bleeding before going to the hospital:

- ✓ **Rest:** when being bleeding, restrict exercising, especially with the bleeding

When using ice, avoid direct contact with skin and should wrap it in a thin layer of cotton towel as ice can cause skin burn. It is recommended to apply as soon as the first signs of bleeding, applying ice pack in the



MONITORING VANCOMYCIN LEVELS IN THERAPY

Dosage and usage:

❖ **Adult:**

– **Loading dose:**

○ The loading dose is indicated only in cases of invasive infection (for example septicemia, endocarditis, bone marrow inflammation, pneumonia) and/or severe illness.

○ Dosage: 25 - 30mg/kg (depending on actual weight) to the maximum of 3g / dose.

○ No more than 2g in elderly patients or people who are at risk for acute renal failure.

– **Maintenance dose:**

○ Normal dose: 1g every 12 hours.

○ In patients with fast creatinine clearance (burned or young people with normal renal function), the indication is preferred as 1 dose every 8 hours.

Indication	Sanford Guideline 2013 ¹	Guidelines for use of antibiotics by the Ministry of Health 2015 ²
Normal dose	1g every 12 hours (if >100kg then 1.5g every 12 hours). Maximum 2g/ dose (2015 ²)	1g every 12 hours (may increase to 1.5g every 12 hours in CrCl patients >90 mL/min in serious cases)
Endocarditis	15 mg/kg every 12 hours	15 mg/kg every 12 hours
Septicemia	1g every 12 hours	1g every 12 hours
Shocked infection	1g every 12 hours	1g every 12 hours
Purulent meningitis	15 mg/kg Every 8hours	15 mg/kg every 8-12 hours
	1g every 12 hours	

Respiratory tract infections	If caused by S.Aureus, administering 15-20 mg/kg every 8-12 hours	1g every 12 hours
Infections related to intravascular instruments	1g every 12 hours	1g every 12 hours
Arthritis infection	1g every 12 hours	1g every 12 hours
Bone marrow infection	15-30 mg/kg every 8-12 hours	1g every 12 hours

❖ **Children:**

– Newborn (< 1 month old)³

Gestational age	Dosage
< 29 weeks	15 mg/kg every 24 hours
29 – 35 weeks	15 mg/kg every 12 hours
> 35 weeks	15 mg/kg every 8 hours

– Age from 1 month – 18 years old

▪ Normal dose: 40 – 60 mg/kg/day every 6-8 hours to the maximum of 2g

▪ In cases of severe infections (septicemia, endocarditis, bone marrow inflammation, pneumonia, meningitis):

▪ Maintenance dose: **15 mg/kg** every 6 hours (6 hours after loading dose).

❖ **Monitoring levels of vancomycin:**

➤ **Object:** The monitoring of vancomycin concentration in plasma should be performed in following patients:

– Severe illness

– Severe invasive infection

– Diminished kidney function or rapid change.

– Obesity (BMI ≥ 40 kg/m²)

¹ David N.G. et al. (2013), Sanford Guide to Antimicrobial Therapy, 43, pp. 4-66, 97, 207-208.

² Bộ Y tế (2015), Hướng dẫn sử dụng kháng sinh, tr. 30-31, 35, 69-70, 74-282.

³ Karen Baxter et al. BNF for children 2014 – 2015, pp. 289 – 290.

- Elderly people
- Poor clinical response after 3-5 days of treatment.
- Combination of vancomycin with other nephrotoxic drugs, such as: aminoglycosid, piperacillin – tazobactam, amphotericin B, cyclosporin, diuretic, nonsteroidal anti-inflammatory drugs (NSAIDs) and contrast medium.
- **Objective's base concentration:** this concentration depends on the characteristics of infection:

Objective's base concentration (µg/ml)	Indication
Always ≥ 10ug/mL to avoid resistance.	
10 – 15	Tissue inflammation, skin and soft tissue infection
15 – 20	Pneumonia, septicemia, endocarditis, meningitis, bone marrow infection
CRCL(ml/p)	At TDM point

➤ **The first TDM point:**

Note: Do not wait for the concentration measurement results. Eg: If taking the sample 30 minutes prior to the 4th dose, then keeping the 4th dose as maintenance dosage. The measuring result will be used for adjusting the next dose.

➤ **Dose adjustment:**

Vancomycin base concentrations are recommended for dose adjustment.

Vancomycin is a drug with linear pharmacodynamic effect, hence the dose change is directly proportional to the change in drug concentration.

- When the base concentration is below the threshold:

> 50	Within 30 minutes	Prior to the 4th dose
15 – 49		Prior to the 3rd dose
< 15		One dose every 24 hours: Prior to the 3rd dose
		One dose every 48 hours: Prior to the 2nd dose

- o Vancomycin dosage adjusted:

$$D_2 = \frac{C_2}{C_1} \times D_1$$

- o By which:

- D1, C1 are the dose used and measured base concentration

- D2, C2 in turn are the corrected dose and target base concentration

- When base concentration is above threshold level:

- o As 5µg/ml or higher: stop vancomycin supply, check the base concentration daily □ base conc reaches threshold. Adjust new dosage based on the above formula

- o As ≤ 5µg/ml or below: adjust dosage based on the above formula.

➤ **TDM frequencies:**

- When the base concentration is at threshold

- o Monitoring at least once per week.

- When the base concentration is not at threshold.

- o After adjusting dosage, performing TDM again when vancomycin conc is stable, specifically:

CrCl (ml/min)	TDM point	
> 50	Within 30 minutes	Prior to the 4th dose
15 – 49		Prior to the 3rd dose
< 15		One dose every 24 hours: Prior to the 3rd dose
	One dose every 48 hours: Prior to the 2nd dose	

- Unstable renal function (creatinine change rate > 15-20%)

- o TDM and checking renal function every 24 hours

Pharmacology Department

Recommending some ways to refresh your mental health

Nowadays, everyone has their own stories, concerns and stresses in their lives, which may be the problems related to social relationship, family, work or personal health and if we do not know how to cope with these tensions and let them invade our mind, they will cause negative effects and lower our quality of life. Therefore, knowing how to “clear up” the discomfort, stresses in the mind is the first important step to protect yourself and your beloved ones as “How to stop worrying and start living”.

According to the World Health Organization (WHO), health is a state where people feel completely comfortable in all terms of physical, mental well-being as well as social functions. Good health is not only free from disorders or illnesses, but also includes the satisfaction of mental demands: restoring from psychological stress, preventing mental disorders, minimizing stress and achieving the state of happiness in which people can work best and exploit their full potentials. Refreshment of mental health can be explained as clearing up the difficulties, stresses and tensions in the mind so that people can have a good health psychologically and physically, a healthy and energetic personality which can adapt well to the society

1. Physical body

Balance – Adequate nutrition

A reasonable diet with sufficient nutrients supplied for the body is essential to maintain a person’s physical and mental health, enabling them to have energy for working effectively as well as keeping alert to respond to various events in life, including stressful events. Some food may have positive effect on our emotions, including nuts, green leafy vegetables, food contains omega-3, beans, fresh fruits, avocados, flaxseed,...

Have sufficient and high-quality

In addition to eating well, sleep also plays a significant role in restoring the damage, regenerating energy and hormones which are beneficial to the physical and mental health. To have such a high-quality sleep, we need to ensure the following

factors: First, rest comfortably, let the body and muscle relaxed, avoid doing highly intensified exercises before going to bed as it will make the body more alert and difficult to fall asleep. Avoid using computer, phone before going to bed because the light from these devices will affect the sleep and make it harder to sleep. Instead, we can listen to music or read a book with gentle content (avoid the melodious, dramatic tones or the books with thrilling or stressful contents such as detective or horror) to relax the mind and easy to go sleep. In addition, the place for sleeping should be quiet, dark enough and do not eat too much before bedtime as well as has cool temperature to ensure better sleep. Last but not least, just like eating on the right time, we need to train ourselves to sleep at the right time scale to sleep better.

2. Psychology

Write out the anxiety, stress

Sitting still, quietly and write focusingly on what we feel is a magical moment, in which we will be able to calm ourselves and our emotions.

In addition, re-writing an events will make us experience it once again, but in a different manner, by which we are telling it but not re-living in that difficult moment. It is an opportunity to look at the stressful event from a different angle, directly and more clearly. Sometimes, we feel uncomfortable and stressful due to the way we looked at what happened but not actually the event itself. Therefore, when we write out the discomfort or something about the event which has not been talked to, then we will be able to see how it really is as well as how you really feel deep inside and what makes you feel that. Just be comfortable and keep writing followed your thoughts and feelings, no need to bother about spelling or grammar, ... And you should just write when you are alone or make sure nobody can read what you write because if anyone is around when you are writing or you fear someone may read what you write, you will not be able to express your true feeling and thoughts. (Sharon K. Farber, Ph. D., 2016).

Paint

Taking time to focus only on creativity is beneficial as it helps us relaxing, not directly facing the stresses but in a much gentle and indirect way by "playing" with the artical instruments. Then you will be able to focus on the present and more inportantly, shaping your emotions so that you can see more clearly, find out what makes you have that emotion and hence, you can link the emotions with the events more accurately and avoid being "put one's spite out on the world". (Cathy Malchiodi, Ph.D., 2016). When we understand our emotions and understand ourselves, we will be calm enough to look back at our sorrows

Deep breathing

Deep breathing technique: Taking a deep inhalation until your belly is stretched and then slowly exhale and squeeze the tummy, which will increase oxygen levels to the brain and also release the toxic chemicals to reduce anxiety and stress.

3. SOCIAL ACTIVITIE

Chatting, confessing with someone

Talking abot things that make you uncomfortable, unhappy or stressful with someone you can trust is almost the same as writing down. By doing it, we will have an opportunity to look back and re-think about the negative, unhappy events it is different from writing in that we will not work alone but there will be people who listen to what we say and we may listen to their point of view on the issue. But sometimes we are afraid to say out our emotions, maybe because we have not found a person that we can really trust to share the emotions with or maybe due to we are not familiar in doing so. However, expressing honestly what we feel or think about is a natural and legitimate needs for everyone. And when we begin to share with people who we believe in, we also open our mind and remember that there is a person who is really listening and understanding. This will make our souls calm and relieved, sometimes, we do not need to be strong and avoid our emotions because confessing to someone elase is also giving them an opportunity to undersrand more about ourselves (Barton Goldsmith, Ph. D., 2013)

4. CONCLUSION

In general, there are always difficulties, challenges waiting for us which are unable to be foreseen, hence each person needs to equip themselves with the most appropriate way to soothing the anxieties and stresses. By doing so, indeed, we can protect, preserve and improve ou physical and mental health.

What parents should do to keep child's umbilical cord blood-stem cells?

At present, many couples when giving birth have decided to store the blood-stem cell of child's umbilical cord in the bio-bank as a "biological insurance" for their children.

A 3 year-old son of Ms M.T.A (living in HCMC) was diagnosed with thalassemia. He was treated with periodic blood transfusion at the hospital. The doctor has advised blood-stem cell transplantation for treatment. However, parents and family members are not suitable for the transplant. As a solution, his parents decided to have one more baby with the hope that the newborn baby's umbilical cord blood stem cell could be matched for his brother.



At birth, the umbilical cord's blood-stem cells have been taken and stored. This is the source for transplantation to treat the first baby.

Another case, because the family has had people with congenital blood disease, Ms D.T.H and her husband (living in Dong Nai) has investigated and decided to store the blood-stem cell of the umbilical cord.

On the other hand, although family has no record of blood disease but since pregnancy, Ms D.M.H has decided to take and store blood-stem cells of child's umbilical cord at birth as a form of "biological insurance" in case of blood disease in the future.

Nowadays, the decisions to take this kind of "insurance" have been made by many couples. "biological insurance", according to Dr. Phu Chi Dung, Director of HCMC Blood transfusion - hematology Hospital, is defined as: Umbilical cord blood or placenta blood flows in the fetal circulation and supplies the nutrients to the fetus in developing state. This is the rest in the umbilical cord and the placenta when the baby is born.

Umbilical cord blood contains an abundant source of hematopoietic stem cells, which can replace bone marrow stem cells, peripheral blood stem cells. Thus, umbilical cord blood has been implicated in blood-stem cell transplantation.

Currently, umbilical cord blood stem cells are used for the treatment of malignant blood diseases (such as blood cancer) or inherited (such as anemia, haemolytic haemolysis); or autoimmune diseases (such as diabetes).

Recent studies have shown that umbilical cord blood stem cells can differentiate into cells of other tissues such as muscles (skeletal muscle, heart muscle), brain cells, hepatocytes, skin cells, lung cells, kidney cells, intestinal cells and pancreatic cells... Thus, the umbilical cord's blood-stem cells can be able to treat many other disease besides hematology. Among them, there are 4 diseases which have been studied for therapeutic applications, including: brain damage, cardiovascular disease and spinal cord injury.

Dr. Dung said that the umbilical cord blood cells which were taken immediately after birth, processed and frozed properly can be stored for up to 20 years.

"With the storage of umbilical cord blood, in case the child gets disease, this stem cell source can be transplanted for the baby itself or otherwise can be used to treat parents or siblings in the family or donate to the community", said Dr. Dung.

An advantgae of umbilical cord blood stem cells is that they have low immunogenicity and can be easily accepted by other bodies when transplanted.

" Usually the siblings in the family are about 25% homogeneous. Therefore, the optimal solution is to store umbilical cord blood stem cells for each person seperately" Dr. Dung said

At the Blood Transfusion and Hematology Hospital in HCMC, Dr. Dung said that there were more than 10 cases of transplantation have been successfully operated by using the source from umbilical cord blood stored in the Hospital bank./.

Consultation on Thalassemia

Question: Dear Doctors, in case the patient is diagnosed with mild Thalassemia, on menstrual period, she often feels dizziness, fatigue and pale skin, then how is the diet recommended ? Should she eat blood restorative food such as beef, animal liver, spinach ?! Should patients drink tea regularly or restricted?! Looking forward to your feedback and advice. Deeply appriciate. Kind regards.

Answer: If diagnosed with mild thalassemia, usually the patient is just mildly anemic and does not require any special medical intervention.

However, when menstruation shows dizziness, tiredness, pale skin, it is possible that the blood loss through menstruation has aggravate anemia.

If it is iron deficiency, the diet which contains iron-rich foods such as beef, animal liver, spinach, etc.. are needed. Tea contains tannins that limit the absorption of iron from food.

Patients should be examined and tested serum iron, serum ferritin to determine if iron deficiency. Based on that, a suitable diet can be recommended

Questioner: N.T.N.T

Consultant: Dr: Nguyễn Thị Hồng Hoa

Consultation on blood donation and platelet donation

Question: I want to know the rules about blood and platelet donantion at the hospital ?

Answer:

1. Voluntary blood donation:

- Certification of voluntary blood donation: equivalent to the amount of blood donated when necessary.
- Supports: milk (equivalent to 100,000 VND or more depends on the amount of blood donanted).
- Snacks: dumplings,...(equivalent to 30,000 VND)
- Travelling assistance: 50,000 VND (cash)

2. Platelet donation by automatic blood cell extraction

2.1 Voluntary platelet donation. Donater gets

- Certificate of platelet donation: equivalent to 450 mL
 - Support: Milk (equivalent to 180.000 VND)
 - Snacks: dumplings,...(equipvalent to 30.000 VND)
 - Travelling assistance: 50.000đ VND (Cash)
- #### 2.2 Paid platelet donation. Donator gets:
- Snacks: dumplings,...(equipvalent to 30.000VND)
 - Donate 1 cup of platelet: 400.000 VND.
 - Donate 2 cup of platelet: 700.000 VND

Note: Donators must meet the voluntary blood donation and platelet donation criteria of the Blood Bank - Blood transfusion and Hematology Hosnital.



**The nature of goodness derives from our heart
Therefore the heart is worthwhile thrice the talent**

For a long time, the words like "angelic doctor", "doctor's conscience" have gradually disappeared. People complain and do not satisfy with the quality of medical services, overloaded hospitals and above all - with physician - patient relationship.

But dears, no one knows about bitter lessons of doctor's life, the causes that force them to trade themselves, to beat them and then force them to stand up once again in order to transfer the motivation for the next generation. The doctor, like the casuarina, regardless the wind, rain, thunder, and storm, always stands firmly, with the head up, to keep the sacred vows, the vows which many generations of our fathers and brothers have been trying to fulfil, with all the efforts and creativity.

The day entering the medical school, boys and girls will learn the first lesson: the lesson of sacrifice, giving and not receiving back. Medical students, in turn, devote themselves to the bodies of those who donated their bodies to the science. I still remembered the first day I entered the department of anatomy, there was an incredible quietness. Later on, when got used to it, I realized that it was really a

dignified respect which lecturers and students give to the bodies of those who donated themselves "live like flowers" - a silent lesson...

Growing up a bit more, the future doctors were put into practice at the hospitals, including our hospital of Blood Transfusion and Hematology. Hospital is the place where people fight to survive, to understand the natural rule of Birth - Age - Sickness - Death, but also the place where love and tolerance are shown off. Moreover, in here, pride, hardiness, bravery and the thirst to live, to prove themselves are the strongest manifestation. This is where the tears roll down after the smiles or the opposite, sour smiles after the tears of pain. It is both heaven and hell. And is that too much to constrain, even for a doctor, a health worker ?

Strangely, Health has brought a lot of emotions to the life, Health sublimates the emotions from happiness to sorrow, Health is silent and elegant, Health is... pitiful; however, there are rare masterpieces or authors written about Health. Unfairly, this is quite a sad thing.

Personally, I really like the "Non-shadow lamp" of Junichi Watanabe. Taking the scenes of hospitals, doctors and patients, it explores deeply into each corner of our soul and mind, to inspire the deepest emotions. If you have time, you should read it sometimes.

Wearing the blouse, we, as doctors, medical employees; but when stepping out the workplace, we are just normal people, have family and worries in life, have emotions and thoughts which are very "normal" and also, a loving heart. Please look at us in that very different, very "ordinary" angle, to understand us, to know what we need most - the understanding from patients.

Back to the problem which I mentioned in the first place, indeed, we are still very shocked and angered with many medical problems in Vietnam recently. They are certainly wrong with the medical virtue, go against the moral standards. However, clearly and unquestionably, medical virtue still exist.

So, where is the virtue? It exists in each of nursing care encouragements for the patients: "What have you eaten, dear?", exists in small but meaningful gestures: kind smiles, warm hand-shakes.. and I have seen so many concerns of the doctors at my Blood Transfusion and Hematology Hospital, when they have to choose the best, most economical

and effective treatment for their patients. Painfully, the best way is not always flat. Many doctors have failed, heartbreakingly seen their patients slipped out of their reach... They were in pain and collapsed, not because they did something wrong, they were unable to help. Medicine is science, not miracle, and the human abilities are anyway, limited.

However, the concern of myself as well as other doctors is to give patient the best things, the most appropriate treatment which results in the best possible outcomes. "Human efforts, usually, can win over the fate"

Life itself, is the good thing, the miracle of creation and death, sometimes, is not necessarily an end, but the beginning of another, better life.

And then, the doctors have to wipe away the painful tears and keep standing up. , strongly and steadily, like the casuarinas standing against storms. Deep inside them, the brightest dawn is future - the world with no sickness is reserved for everyone.

Instead of the ending, I, a young doctor, wish a thing which is both simple and complicated: In some way, please give us - the medical workers - a chance to express our difficulties, concerns, please let us being able to love everyone, to care and protect your health !

Dr. Nguyen Quoc Vu Khanh





2nd HOUSE

Hospital of Blood Transfusion - Hematology (BTH) is the leading hospital in the field of Hematology in the country in general and in the South in particular. Every day, we received over 500 outpatient visits and more than 200 patients were admitted for inner-treatment at the hospital. Basically, the characteristics of hematological disease is chronic, have long treatment duration and high treatment costs, so patients need a lot of material and spiritual supports, especially the children who suffer blood diseases when they are still too young.

Children are the family's happiness, are the future of country. President Ho Chi Minh had always dedicated his love and special care to the children. With Uncle Ho, children are like the seeds, the future owners of country. He said "the seed is healthy then the tree is strong, the sprout is green then the leaf is fresh, the baby is well-educated then the country is well-developed and independent". Following the teaching of Uncle Ho, the BTH hospital in general and the Department of Social Welfare (DSW) in particular have always tried their best to help these unlucky sprouts to have a better lives like the normal children, to participate in seemingly simple activities but are full of humanity.

"Giving children's birthday gifts" and "Giving confidence in life class" are two typical activities performed by DSW every week. Coming



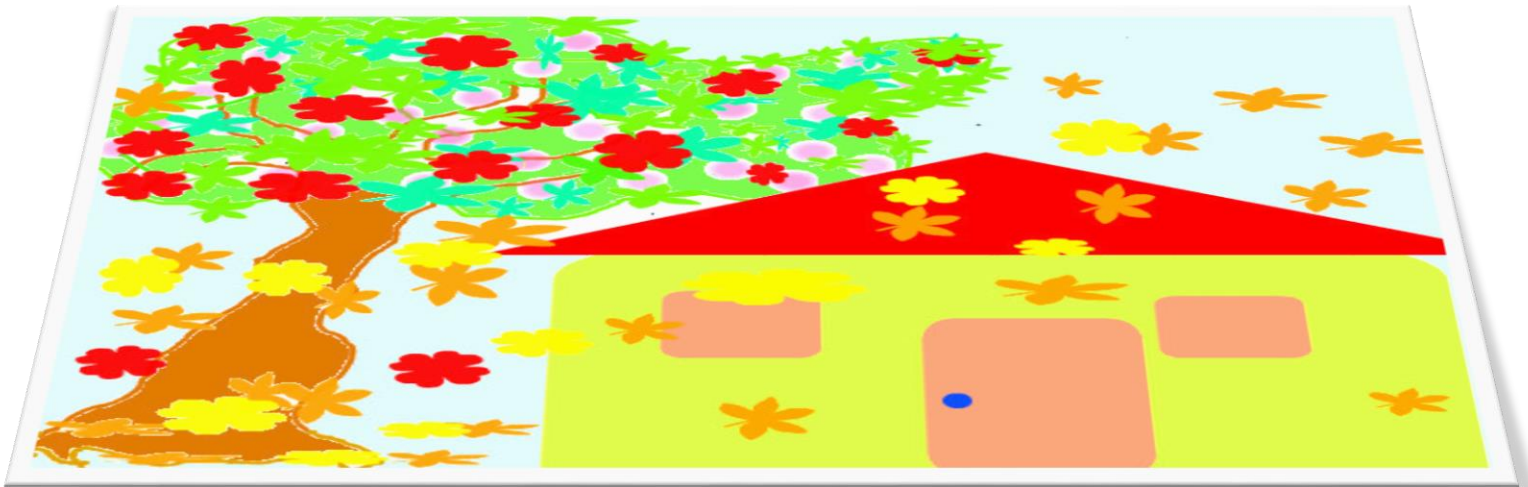
The giving confidence in life class



Health education - CML disease



Organizing "Mid-Autumn Festival" for children



to BTH, children are not only cared by physicians and doctors, but also being entertained and educated to be able to participate with other children. Eventually, BTH has become the second home for them. It would be very pitiful if in the hospital, instead of having fun and playing, they had to lay down, injected with bottle of drugs and perhaps, their birthday with them would be just like a normal day. The joy and happiness reflected in their eyes when we arrived, not because of the gift expensive in price, but expensive in heart. The gifts have been carefully selected by the staffs to fit their ages as well as their gender, with the hope that these gifts will bring them a warm feeling, to help them fight against their sickness.

The "Giving confidence in life class" is the next outstanding activity, organized by the DSW in companion with the Youth Union and the Healthy Baby Club on every Sunday morning to help children studying and entertaining. With the enthusiasm of the youth, all the volunteers provide them the necessary knowledge as well as living skills and through this, they have the opportunity to learn and play with each other.

In addition, BTH also has many activities to support children as well as regularly operate activities such as "mid-autumn Festival" in late December, which has been received active participation from the children.



Patients wear bracelets "Life confidence"



The activity "Giving children's birthday gifts" for children

With all these activities, BTH is truly the second home where parents can trust to let their children being treated, both physically, mentally and emotionally.

Dr. Nguyen Ngoc Sang

TET'S SPECIALITIES

The five-fruit tray arrangement

Five-fruit tray is placed on the ancestral altar on the occasion of the Lunar New Year with the five colors symbolized for the five blessings: Rich, luxury, long life, healthy and peaceful. Here is how the tray is arranged according to different regions' customs.

Five-fruit means there are five different types of fruit, with five different colors according to five natural elements: Metal is White, Wood is Green, Water is Black, Fire is Red and Soil is Yellow. The tray is organized according to these five colors.

However, in practice, each region has different way of displaying the five-fruit tray.

The Northern

In the north, five-fruit tray usually has five kinds of different fruits with different colors, specifically: green banana/apple; yellow grapefruit, buddha's hand, orange, mandarin; red apple or chili; white plum, peach or pear; black sapodilla, grape, mangosteen or black plum. The northerners often choose the odd



number of fruits when displaying, while people in the Central and the South are more flexible, in which they just

focus on the meaning of fruits of not the number itself.

The traditional way of displaying is placing the banana in the bottom, put in the middle of tray as the base for all other fruits. The good tray is beautiful with colorful fruits. In the middle of the bananas is the yellow grapefruit or buddha's hand. The red ripen fruits are placed around and the space left is filled with yellow mandarin, green apples or red chilies, to make a perfectly colorful decoration.

The Middle

In the Middle, people do not focus on the form of the tray but mainly on the contents, to show their worship and devotion to their ancestors. On the other



hand, due to the cultural interference between the North and the South, the tray of fruits in the Middle region is decorated with Bananas, custard apple, figs, coconut, papaya and mango...

The Southern

If with the Northern people, green banana is not replaceable on the five-fruit tray, the Southerners forbid some kinds of fruit on the tray. Indeed, they never display Bananas, because this fruit's name is similar to the word "fall down" which means difficulty in Vietnamese. Orange and pear is also forbidden as there is an idiom "Mandarin did, Orange

suffered" and pear - in Vietnamese, is synonymous with "dragging"...

The five-fruit tray in the South usually contains: custard apple, coconut, papaya, mango, and figs; when being read together, they combine into the sentence "wish to have enough" or "Just enough to be rich".



Jelly pineapple jam

Materials

- An pineapple about 1 kg
- 450 g Sugar

Methodology

Step 1:

Selecting a big pineapple, cut into 4 parts, then peel the pineapple shell like peeling watermelon shell. Note that do not cut the pineapple in the traditional way of eliminating eyes, as when making jam the pineapple would be easily crushed. Then get rid of the core and cut into small pieces about 0.7 cm thick.



Step 2:

Put pineapple into a big pot, pour sugar in, mix thoroughly so that the pineapple piece is covered by sugar. Close the pot and let it be overnight.

Step 3:

After soaking overnight, pour the pineapple juice into the pan, boil until the mixture becomes jelly-like.

Step 4:

Pour the pineapple into the pot. At first keep the temperature high, when it starts to boil then reduce the fire.

Note: do not flip up the pineapple piece. After 1 hour, turn off the stove. Leaving the pineapple in the sugar pan, this process helps the pineapple becomes more transparent.

Step 5:

After 1 hour, flip the pineapple piece again, keep boil it with small fire for 1 more hour.

Making Chung Cake

Step 1: sticky rice is soaked overnight and poured out to drain, add a little salt and stir evenly.

Step 2: Soak until the rice expanded, then drain to dry and put in the pot, steam-boiling until it becomes soft and grind it.

Step 3: wash the meat, cut into pieces and mix with pepper, seasoning and cardamom.

Step 4: wash the phrynium leaves, select the beautiful ones. If have time, can wash the leaves briefly with hot water to make them elastic and easier to pack.

Step 5: Mix sweet gourd with rice, may add some sugar in favor.

Step 6: After completing the preparation phrase, we start the packing process.

- Phrynium leaves fold as shown in the picture.
- Set the leaf vertically and fold the edges as shown.
- In turn, fold 3 leaves as above and place in the mold.

Step 7: After folding the mold, we make the shell and the core of cake. First, pour a layer of rice and spread evenly.

- Followed is a layer of bean and meat
- Finally is another layer of rice
- After that, we fold the leaves and tighten the cake
- Keep doing like above until finishing the materials.

- After the cake is wrapped, take some leaves to cover the bottom of the pot, arrange the cakes in the pot and boil for about 10 hours.

- During boiling, pay attention to the fire and water level.

Step 8: When the cake is finished boiling, take it out and leave to cool down, then put a heavy, flat object on it to harden the cake.

Leave it overnight and then gently pick up each cake, place it on the plate, you can also remove the leaves and cut the cake in to pieces and put on the altar for praying



The benefits of bringing lunch box to the office

Một người phụ nữ đến gặp bác sĩ tâm thần để tư vấn về tình trạng trí nhớ tồi tệ của mình. Cô ấy nói:



- My memory recently is very bad. Sometimes, when being on the road, I could not remember whether I was going to the office or coming back from the office to home.

Doctor was thinking for a long time and replied slowly:

- This is simple. Tomorrow, you just need to prepare a lunch box before going to work.

- But how can that help ? - The woman asked suspiciously.

The Doctor answered calmly:

- Of course! When you encounter the same situation as above, you just need to open the box. If the food is still there, it means you are going to work. On the other hand, if the box is empty, you are on the way home.

Student in @ Generation

The teacher was reading the story "three little pigs" to the children, as the part where a pig was asking a farmer to take some straw:

- Dear uncle, may I take some straw please!



Studying with Facebook



An teacher and a student were chatting with each other.

- Did you finish your homework, Ti ?

- Yes, I did and posted on Facebook and tagged you already. When you look, please remember to like and comment for me.

- Well done, I have just posted your score on Facebook and tagged your mother, remember to remind she to like and comment for me.

!?



Announcement for recruitment in 2018 Training course for Health staff at BTH

- According to Circular No.22/2013/TT-BYT dated 09/8/2013 of the Ministry of Health guiding the training activity in the field of health.
- According to the Official dispatch No. 5044/BYT-K2DT dated 06/8/2012 of the ministry of Health on recognition of training capability in the field of Health for BTH hospital.
- According to the Official Dispatch 7548/SYT-TCCB dated 13/11/2013 of the Department of Health on the addition of training program for the BTH hospital.
- According to Official Dispatch 4489/QD-SYT dated 26/6/2017 of the Department of Health on approving the addition of 8 training programs for BTH hospital.
- BTH Hospital would like to announce the information about recruitment of training programs for staffs working in Health sector 2018 as following:

I. List of training program

1. Clinical Hematology courses:

	Duration
1.1. Clinical Hematology	6 months
1.2. Blood-stem cell transplantation	6 months
1.3. Extraction of blood components.	2 months
1.4. Caring for hematological patients	3 months
1.5. Clinical blood transfusion.	3 months
1.6. Blood transfusion safety.	1 week

2. Paraclinical Hematology courses, including:

2.1. Specialized Medical Test.	3,5 months
2.2. Determining HLA.	2 months
2.3. Immunological Blood Transfusion.	2 months
2.4. Basic immunological markers.	4 months
2.5. Fluorescent In Situ Hybrid (FISH).	1 month
2.6. Chromosome mapping.	6 months
2.7. RT-PCR genomes in CML, AML, ALL.	2 months
2.8. Hematologic testing - application in diagnosis of hematologic disease.	2 months
2.9. Diagnosis of bone marrow.	3 months
2.10. Coagulation Test.	2 months
2.11. Techniques in Anatomy of Hematology.	3 months
2.12. Hematological Surgery.	6 months

3. Blood banking courses, include:

3.1. Preparation, storage, distribution of blood and blood related products.	1 month
3.2. Taking blood and extracting blood cells.	1 month
3.3. Screening blood.	3 months

4. The stem cell banking courses include:

4.1. Collection, processing and storage of stem cells.	2 months
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- Students study full-time at the training institution including theory and practical followed the program of BTH which has been approved by Ministry of Health.

- Students are granted certificates after finishing the course(s)

II. Detailed training plan (attached file)

III. Application documents include:

- Registration form;
- Copy of professional diplomas (notarized copy);
- Copy of personal ID (notarized copy)
- 2 photos 3x4 (write personal information behind)

- If your company has the need of sending your staffs to participate in the training courses, please register directly or send the documents to the mail box:

- **Department of Multifunction and Planning, Blood Transfusion and Hematology Hospital**

- Address: 118 Hong Bang, ward 12, District 5, HCMC.

- Phone: 0283 957 5886 (meet Chairman. Đặng Văn Trường) Fax: 0283 855 2978 Website: <http://bthh.org.vn/> Email: daotao.bvtmhh@gmail.com

- Account No.: 117000008675 Vietnam Joint Stock Commercial Bank - HCMC branch

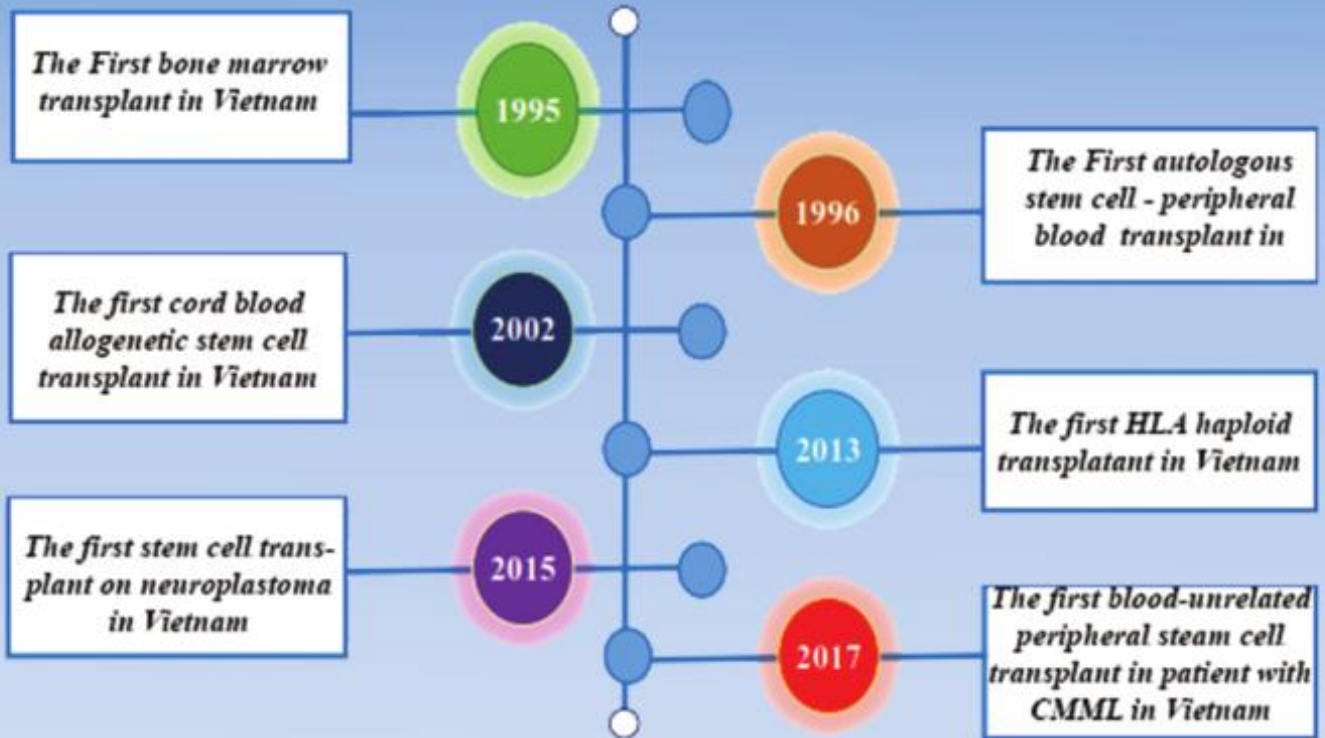
- Registration time, tuition fees and admission deadline is 10 days before the start of each course. Regards



*Website Blood Transfusion Hematology Hospital
www.bthh.org.vn*



*Website Ho Chi Minh Blood Transfusion and Hematology Association
http://bthh.org.vn/hoi-truyen-mau-huyet-hoc-121.html*



Important milestones in the field of "hematopoietic stem cell transplant" in Vietnam



The model of the new hospital in Tan Kien, Binh Chanh

BTH
 BỆNH VIỆN TRUYỀN MÁU
 HUYẾT HỌC

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