Main Topics

- Thrombosis & Hemostasis
- Regenerative Medicine
- SCT
- Anemia, Hemoglobinopathies
- Case Presentations and Hematomorphology
- Hematopoietic Malignancies
- Free Papers

Call for Abstract

Abstracts for oral free papers and posters are invited. It should be written on size A 4, font 14 Arial, the title should be in Capital, names and affiliation of authors underlining the presenting author. It should be structured: Background, objectives, material and methods, results and conclusion. Corresponding author contact and 3-5 keywords should be provided. The deadline to receive abstracts is July 31st and we will reply by September 15th
It should be submitted to conference secretariat

Registration Fees

L.E 300	Registration for the conference & Registration of the Egyptian society of Hematology
$ 200	For Non-Egyptians
L.E 250	per nonmember delegates
L.E 150	per member delegates
L.E 100	Junior

Contact Information

Conference Secretariat
Pioneer Events
30 Dr. Anwar El Mofti St., 61 Nasr City, Cairo, Egypt
Tel.: (+202) 24053575 Fax: (+202) 24020609
E-mail: info@pioneer-events.org

The Egyptian Society of Hematology & Research (ESHR)
National Cancer Institute, Fom El Khalig, Cairo, Egypt
Tel.: (+202) 23635083

11th International Conference of the Egyptian Society of Hematology and Research (ESHR)

Update in Hematology

22th - 23th October, 2014
Grand Nile Tower, Hotel
Cairo-Egypt

President of the Conference & Society
Prof. Faiza Hammouda

Vice President
Prof. Amal El Beshlawy

Secretary General
Prof. Azza Kamel

Prof. Mervat Matter

Welcome Message

Once again we meet in the 11th International Conference of the Egyptian Society of Hematology & Research (ESHR) that will be held at Grand Nile Tower Hotel, Cairo, on 22-23 October, 2014.

On behalf of the scientific and organizing committees, we would like to invite you to attend the most enlightening experience in Hematology.

The Conference will cover the different aspects of both clinical and laboratory hematology including Thrombosis and hemostasis, Anemia, Oncologic Hematology, BMT and Hemato-morphology. The conference will highlight the most recent issues and the topics that are still controversial. National as well as International figures in hematology will address the conference with state of art lectures in the various topics.

Finally we hope this conference will help to enhance the clinical and laboratory skills and knowledge of participants and enable them to discuss with speakers all aspects of Hematology.

President of the Conference
Prof. Faiza Hammouda

Organizing Committee:

President	: Prof. Faiza Hammouda
Vice President	: Prof. Amal El Beshlawy
Secretary General	: Prof. Azza Kamel
	: Prof. Mervat Matter
Moderator	: Prof.Magdy El Ekiaby
Moderator	: Prof.Somaya El Gawhary

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Prof : Magdy El Ekiaby
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Prof.Mona El Tagui
Prof.Normine Kaddah
Prof.Ossama El Safi
Prof.Sheble Said Sheble
Prof.Somaya El Gawhary
Prof. Mohamed Mabed

CONTENTS

WELCOME MESSAGES

Once again we meet in the 11th International Conference of the Egyptian Society of Hematology & Research (ESHR) that will be held at Grand Nile Tower Hotel, Cairo, on 22-24 October, 2014.

On behalf of the scientific and organizing committees, we would like to welcome you to attend the most enlightening experience in Hematology.

The Conference will cover the different aspects of both clinical and laboratory hematology including Thrombosis and haemostasis, Anaemia, Oncologic Hematology, BMT and Haematomorphology. National as well as International figures in Hematology will address the conference with state of art lectures in the various topics.

Finally we hope this conference will help to enhance the clinical and laboratory skills & knowledge of participants and enable them to discuss with speakers all aspects of Hematology.

Thank you all and welcome again to the 11th International Conference of the Egyptian Society of Hematology & Research (ESHR).

President of the Conference
Prof. Faiza Hammouda

COMMITTEES

Organizing Committee

President	: Prof. Faiza Hammouda
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ACKNOWLEDGEMENT

The Organizing committee would like to sincerely thank the main sponsors of the meeting namely **Novartis, GSK, Roche, Novonordisk** Companies.

Without the generous support of these companies the meeting would not have been possible .Also we would like to thank **all other companies who supported the conference and** the activities of the ESHR.

The Organizing Committee.

GENERAL INFORMATION

Official Language

The official language of the congress is English.

Time Difference

Egypt time is 2 hours ahead of Greenwich Mean Time (GMT+2).

Climate

Egypt has a worm and sunny climate all year round, although on the whole it can be best described as mild. While the mid summer months can get quite hot, the heat is less taxing than else-where because of low humidity.

For the rest of the year the weather is ideal, and sunny. Rainy days are few and far between in Cairo, and nearly unknown in Upper Egypt.

Therefore, it would be wise to pack both lightweight and warm clothing.

Electricity

Electricity Outlets for 220 volts are dominant in Egypt. Always check the power supply before using your equipment.

Liability and Insurance

The Organizing Committee will take no liability for personal injuries sustained by or for loss or damage to property, belongings of congress participants or accompanying persons, either during or as a result of the congress or during their stay in Egypt. It is, therefore, advised that participants arrange their own personal health, accident and travel insurance.

Business Hours

Friday is the official weekend. Most embassies on closed Friday and Saturdays, but few close on Saturdays and Sunday. Shops are generally open from 9:00 to 21:00 hours and most of them close on Sunday.

Tipping

Whilst tipping is not essential, people who provide a service, for example, hotel porters, waiters, drivers and guides generally expect some tipping . There is no set amount of tip given, it is left to the individual as appreciation of service provide.

Badges

You will receive your name badge on registration. For security and administrative reasons you should wear your name badge throughout the conference, breaks, and exhibition hall.

Certificate of Attendance

Certificate of Attendance will be delivered on the second day at the registration desk .

Coffee Breaks

It will be served in the foyer in front of Conference rooms.

Exhibition Hall

Medical Industry and Pharmaceutical companies will be present in the foyer in front of the Conference rooms. Please feel free to visit the medical exhibition during the breaks.

Information Desk

For any inquiries please contact the organizers.

Mobile Phones

Mobile Phones must be switched off inside the meeting rooms.

Lost and Found

For your missing or lost items contact the Conference Information Desk.

Medical Emergencies

Please contact the emergency phone numbers or Conference Information Desk.

Preview Room

All Speaker are kindly requested to deliver their presentation at least 2 hours before their talk to the slide room which will be beside the meeting room.

Conference Secretariat

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Tel : 202 24053775
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PROGRAM AT A GLANCE

Wednesday 22/10/2014

09:00 - 10:00	Opening Ceremony
10:00 - 11:30	Hemato-oncology I: Myeloproliferative disorders
11:30 - 12:15	Plenary I
12:15 - 12:45	Coffee Break
12:45 - 14:00	Egyptian Society of Hematology & Research (ESHR) & Kasr El-Aini School of Oncology (KASO Conjoint session) Targeted therapy in Lymphoproliferative disorders Focus On CD20
14:00 - 15:00	Novonordisk symposium :Dealing With Fulminant Bleeding
15:00 - 15:30	Coffee Break
15: 30 - 17:00	Egyptian Society of Hematology & Research (ESHR) & Egyptian Society of Transfusion Services Conjoint Session
17: 00 - 18:00	Egyptian Society of Hematology & Research (ESHR) & Egyptian Society of Hemophilia (ESH) Conjoint Session
18:00 - 19:00	**Early Dinner**

Thursday 23/10/2014

09:30 - 11:00	Hemato-oncology II (Lymphoid Malignancies)
11:00 - 12:30	Anemias and Cytopenias
12:30 - 13:00	Coffee Break
13:00 - 13:30	Plenary II
13:30 - 14:30	GSK Symposium :Updates in the management of adult ITP
14:30 - 15:00	Coffee Break
15:00 - 16:30	Free Papers
16:30 - 18:00	Challenging Case Presentations & Hematomorphology
18:00 - 19:00	**Early Dinner**

Friday 24/10/2014

Amgen Symposium in the event of Launching the Pan-Arab Hematology Association
Pan Arab Hematology Association
First Myeloma Day

13:00 -14:50	Session 1
14:50 - 15:10	Coffee break
15:30 - 17:00	Session 2
17:00 - 18:00	**Dinner**

PROGRAM DETAILS

Wednesday 22/10/2014

09:00 – 10:00 Opening Ceremony

Hemato-oncology I: Myeloproliferative disorders (10:00 – 11:30)

Chairpersons

Prof. wafaa El-Metennawy — Prof. Magda Assem

Prof. Elhami Refki — Prof. Mervat Matter

10:00 - 10:30 Pathophysiology and prognosis of Ph-negative MPN **(Haifa El-Aly,Germany)**

10:30 - 11:00 CML: Arab Leukemia Network (ALN) **(Mohammed Azzazi)**

11:00 - 11:30 Management of Ph-negative MPN **(Haifa El-Aly,Germany)**

Plenary I (11:30 – 12:15)

Chairpersons

Prof. Mervat El-Ansary — Prof. Ashraf El-Ghandour

Prof. Enas Asfour — Prof. Sameh Shamaa

11:30 - 12:15 Chimeric antigen receptor (CAR) in the management of Hematological diseases **(Hanan Hamid)**

12:15 - 12:45 Coffee Break

Wednesday 22/10/2014

Egyptian Society of Hematology & Research (ESHR) & Kasr El-Aini School of Oncology (KASO) conjoint session
Targeted therapy in Lymphoproliferative disorders Focus On CD20
(12:45 – 14:00)

Chairpersons

Prof. Hussein Khaled — Prof. Aida Nazeer

Prof. Fouad Abo Talb — Prof. Hamdi El-Zawam

12:45 - 13:30 Targeting CD20
(Hamdy Abdel Azim)

13:30 - 14:00 Case presentation: diagnostic and Therapeutic Efforts: Hand in Hand
(Hala Faraweila - Mervat Mattar)

Novonordisk symposium:
Dealing With Fulminant Bleeding
(14:00 – 15:00)

Chairpersons

Prof. Amal El-Beshlawy — Prof. Zakaria Ismail

Prof. Mona AlKassas — Prof. Maha Alzemity

14:00 - 14:30 Dealing with Hemophilic patients with inhibitors
(Azza Abdel Gawad)

14:30 - 15:00 Acquired Hemophilia: how and when to treat?
(Mervat Mattar)

15:00 - 15:30 Coffee Break

Wednesday 22/10/2014

Egyptian Society of Hematology & Research (ESHR) & Egyptian Society of Transfusion Services Conjoint Session (15:30 – 17:00)

Chairpersons

Prof. Taghreed Gaafar — Prof. Hoda Hassab

Prof. Omar Fahmi — Prof. Amina Hassab

15:30 - 15:50	Novel Products of Human Plasma **(Magdy El Ekiaby)**
15:50 - 16:10	Secured Blood Supply in Unstable Situations **(Faten Moftah)**
16:10 - 16:30	Safe Blood Donors, a challenging task **(Tarek Metwalli)**
16:30 - 16:50	Transfusion support in patients with hematological malignancy **(Mohammed Abdel-Moeti)**
16:50 - 17:00	Disussion

Wednesday 22/10/2014

Egyptian Society of Hematology & Research (ESHR) & Egyptian Society of Hemophilia (ESH) Conjoint Session (17: 00 – 18:00)

Chairpersons

Prof. Youssria Abdel-Rahman — Prof. Mohammed Badr

Prof. Osama El-Safi — Prof. Elham Yousry

17:00 - 17:15	Patients can make the change for themselves **(Patient representative)**
17:15 - 17:30	Summary of ESH activities in one year **(Sonia Adolf)**
17:30 - 17:45	Report on Zagazig Hemophilia Caravan **(Mohamed Besheer)**
17:45 - 18:00	Report on Mansoura Hemophilia Caravan To be announced
18:00 - 19:00	Early Dinner

Thursday 23/10/2014

Hemato-oncology II (Lymphoid Malignancies)
(09:30 – 11:00)

Chairpersons

Prof. Hussein Khaled	Prof. Aida Nazeer
Prof. Mostafa Nassar	Prof. Mahmoud Salah

09:30 – 10:00	Challenging the aggressive biology of DLBCL **(Mohammed Khalaf)**
10:00 – 10:20	Results of stem cell transplantation in lymphomas **(Hossam Kamel)**
10:20– 10:50	Flow Cytometry in Hemopoietic Malignancies: Focus on Lymphoid Neoplasms **(Azza kamel)**
10:50– 11:00	Discussion

Thursday 23/10/2014

Anemias and Cytopenias
(11:00 – 12:30)

Chairpersons

Prof. Lamis Ragab
Prof. Soad El-Jaouny
Prof. Normine Kaddah
Prof. Galila Mokhtar
Prof. Dr. Mona El-Tagi

11:00 – 11:30	Update on Hemoglobinopathies: The Egyptian Experience **(Amal El-Beshlawy)**
11:30 – 11:50	Functional Iron Deficiency: Diagnosis and management. **(Azza Abd El Gawad)**
11:50 – 12:10	Hepatitis C in Hematological diseases: Past and Future perspectives **(Manal Hamdy El Sayed)**
12:10 – 12:30	Primary immune deficiency and pancytopenia **(Aisha El-Marsafi)**
12:30 – 13:00	Coffee Break

Thursday 23/10/2014

Plenary II (13:00 – 13:30)

Chairpersons

Prof. Faiza Hammouda Prof. Azza kamel

Prof. Alaa El-Haddad

13:00-13:30 The Scourge of Substandard Medicines
(Atholl Johnston.UK)

GSK Symposium:
Updates in the management of adult ITP
(13:30 – 14:30)

Chairpersons

Prof. Dr Hossam Kamel Prof. Neveen Kassem

Prof. Mohammed Quari

13:30 – 14:00 Management of ITP
To be announced

14:00 – 14:30 Clinical Evidence of eltrombopag olamine, REPEAT, RAISE and EXTEND studies
(Omar Fahmi)

14: 30 – 15:00 Coffee Break

Thursday 23/10/2014

Free Papers
(15:00 – 16:30)

Chairpersons

Prof. Hoda Gaballah — Prof. Hoda Soud

Prof. Maha Akl — Prof. Nabih Fadaly

15:00 – 15:15	The possible therapeutic role of black raisins on experimentally induced iron deficiency anemia in adult female rats **(Sawsan Rohaeim)**
15:15 – 15:30	Immunophenotype heterogeneity in T-ALL **(Douaa Sayed)**
15:30 – 15:45	Biochemical and histological study on the effect of bone marrow derived cells in treatment of cardiomyopathy in adult diabetic albino rat **(Eman Mashhour)**
15:45 – 16:00	The application of eosin maleimide-binding test in the diagnosis of hereditary spherocytosis in children **(Sarah Nawar)**
16:00 – 16:15	Splenectomy for patients with β - Thalassemia major: Long-Term Outcomes **(Asmaa Zahran)**
16:15 – 16:30	Study of some Apoptotic and Fibrotic markers in Myeloproliferative Neoplasms **(Mohammed Ibrahim)**

Thursday 23/10/2014

Challenging Case Presentations
& Hematomorphology
(16:30 – 18:00)

Chairpersons

Prof. Azza Mostafa
Prof. Mohammed Awad
Prof. Nadia Mowafi
Prof. Somaya El-Gawhary

Presenters: *Alphabetically*

Douaa Sayed
Eman Mansour
Hala Farawela
Homam Sharshira
Magda Sultan
Sherine El-Maghraby
Nahla El-Sharkawy
Omnia El-Gibaly

18:00 - 19:00 Early Dinner

Friday 24/10/2014

Launching the Pan-Arab Hematology Association (PAHA)

PAHA President: Prof. Mohamed Qari

Pan Arab Hematology Association
First Myeloma Day

President of the meeting: Prof. Hossam Kamel

Friday 24/10/2014

Session I: 13:00 – 14:50

Chairperson

Prof. Hossam Kamel

Co-Chairpersons: *(Alpahabetically)*

Prof. Azza Kamel

Prof. Hoda Gaballah

Prof. Zakaria Ismaiel

Dr. Mohamed Khalaf

13:00 – 13:20	Pathophysiology of MM **(Nemat Kassem, Egypt**)
13.20 – 13:40	Diagnosis of Plasma cell dyscrasia, Prognostic markers **(Tarek Owaidadh, KSA)**
13:40 – 14:00	MM First line therapy **(Mohamed Azzazi, Egypt)**
14:40 – 14:20	Multiple Myeloma, Second Line Therapy and beyond **(Mervat Mattar, Egypt)**
14:20 – 14:50	Emerging therapies for multiple myeloma **(Abdulkareem Al Momen, KSA)**
14:50 – 15:10	Coffee break

Friday 24/10/2014

Session II: 15:30 – 17:00

Chairperson

Prof. Hossam Kamel

Co-Chairpersons: (Alpahabetically)

Prof. Aida Nazir

Prof. Faisal AlSayegh

Prof. Inas Asfour

Prof. Mahmoud Salah

Prof. Sameh Shamaa

15:30 –15:50	Secrets of Auto transplant in Multiple Myeloma **(Omar Fahmy, Egypt)**
15.50–16:10	Transplant eligible multiple myeloma from guidelines to reality: The Saudi Experience. **(Fahd Alshareef, KSA)**
16:00 – 16:30	MM A bone problem **(Ebtessam Saad eldin, Egypt)**
16:10 – 16:30	MM A bone problem **(Ebtessam Saad eldin, Egypt)**
16:30 – 17:00	Closing Remarks
17:00 – 18:00	Dinner

Flow Cytometry in Hemopoietic Malignancies Focus on Lymphoid Neoplasms

Azza M Kamel
Prof. of Clinical Pathology
NCI, Cairo University

Flow cytometry is a powerful tool to study marker expression, surface or cytoplasmic, as well as DNA ploidy and cell cycle analysis.
Currently it is a part of the basic work-up in the diagnosis and follow up of acute and chronic leukemia and it has an increasingly growing role in other hemopoietic malignancies.
In ALL, immunophenotyping serves to establish the line of origin and stage of differentiation, to identify various prognostic subgroups and for determination of panels for minimal residual disease (MRD) detection. DNA ploidy is an established prognostic parameter in ALL and in MM.
For B chronic lymphoid leukemia immunophenotyping is a part of the basic diagnostic workup. It is essential to establish clonality and to discriminate between the different subtypes namely, CLL, PLL, HCL and leukemic phase of NHL (FL, MCL, SLVL) Flow cytometry is used to evaluate prognostic markers namely CD38 and ZAP70 in CLL. Recently MRD detection in CLL has gained a lot of interest on account of the marked progress in therapy that made complete remission, not only desirable, but also achievable
Flow Cytometry in MM, though not as popular as in acute and chronic leukemia, yet it has a well established role in diagnosis, prognosis and follow up by MRD detection.

Update in Hemoglobinopathies : The Egyptian Experience.

Prof. Amal El-Beshlawy
Cairo University
President of The Egyptian Thalassemia Association

Hemoglopinopathies are genetically determined chronic hrmolytic anemias in which patient can start blood transfusion therapy very early in life.Beta thalassemia is the most common autosomal single gene disorder Worldwide. The Mediterranean region, central parts of Africa and Asia have the highest prevalence of the gene. The carrier rate in Arab countries varies between 1- 11%.InEgypt the carrier rate for thalassemia is 5.5%to >9%,the sickle cell disease is much less prevalent (0.1%)than thalassemia except in the Oasis of the western desert where the carrier rate may reach up to 22%. In Egypt there is no national prevention program though the awareness to the disease remarkably improved. The number of new births with B-thalasemia in Egypt is tremendously increasing. The Cairo University hematology clinic started a prevention program and established a prenatal diagnosis center for thalassemia with a successful outcome for the tested fetuses.Preimplantation genetic diagnosis for thalassemia started to work in Egypt but in private centers. Blood transfusion and chelation therapy are the corner stones for management of thalassemia. Iron chelation therapy is the key point for survival and better life of the patients. Desferoxamine was the only iron chelator up to 1999 with very bad compliance of the patients and high incidence of mortality and morbidity. Since the evolution of the Oral Iron chelators the compliance of the patients to iron chelation remarkably improved. The first was Deferipone taken 3times a day with success and occasional complications. The evolution of the oral iron chelator deferasirox(EXJADE) which is taken once orally daily remarkably improved the quality of life, compliance to chelation therapy and reduction of the serum ferritin , liver iron concentration and Cardiac iron deposition.In non transfusion dependent thalassemia(NTDT)the patient donot require regular blood transfusion for survival, iron overload is primarly due to increased intestinal absorption .Serum ferritin evaluation under- estimates the iron burden in NTDT while liver iron concentration predicts total body iron.In Sickle cell disease (SCD) blood transfusion has got its indications ,it is the primary source of iron overload whether the patient is regularly or sporadically transfused.Iron overload can reach considerably high levels warranting concern in this patients. The survival of thalassemia patients remarkably improved internationally as well in Egypt. Conclusion:Prevention of thalassemia on national basis in Egypt is urgently needed.Although patients improved in their quality of life and survival but still HCV plays a role in the morbidity of these patients.Control of HCV in Egypt is urgently needed.

Functional iron deficiency: Diagnosis and management

Azza Abdel Gawad Tantawy
Professor of Pediatrics
Faculty of Medicine, Ain Shams University
Cairo, Egypt

Functional iron deficiency (FID) is a state in which there is insufficient iron incorporation into erythroid precursors in the face of apparently adequate body iron stores, as defined by the presence of stainable iron in the bone marrow together with a serum ferritin value within normal limits. In its broadest sense this definition encompasses the partial block in iron transport to the erythroid marrow seen in subjects with infectious, inflammatory and malignant diseases, and is a major component of the anemia of chronic disease (ACD).This presentation will discuss the value of the recent and standard diagnostic measures of iron status, in the management of patients with FID.

References

1: Thomas DW, Hinchliffe RF, Briggs C, Macdougall IC, Littlewood T, Cavill I; British Committee for Standards in Hematology. Guideline for the laboratory diagnosis of functional iron deficiency. Br J Haematol. 2013 Jun;161(5):639-48.

2: Waldvogel Abramowski S, Favrat B, Vaucher P, Cornuz J, Tissot JD. Diagnostic markers of iron deficiency: which should we choose? Rev Med Suisse 2013 Feb 13;9(373):380-3.

Hepatitis C Virus Infection in Children with Hematological Diseases: Past and Future Perspective

Manal Hamdy El-Sayed
Professor of Pediatrics
Ain Shams University

Hepatitis C virus infection is highly prevalent in Egyptian children receiving multiple transfusions for hematological diseases. The incidence of HCV infection in newly diagnosed patients with thalassemia was 25% in a one year prospective survey. It has been hypothesized that nosocomial infection rather than blood transfusion is responsible for the high incidence of infection due to the vigilant procedures adopted in screening of blood. Furthermore, among thalasssemic bone marrow transplant recipients, the high prevalence of HCV has been shown to increase the risk of hepatic GVHD and veno-occlusive disease with increased risk of mortality from liver disease.

Several practice guidelines are available for treatment of HCV infection in the non-thalassemic population with well-defined evidence-based recommendations. The best outcome has been obtained with pegylated interferon plus ribavirin for a period of 48 weeks for genotype 4, the most prevalent genotype in Egypt; with a sustained virological response rate of 55%. The hemolytic effects of ribavirin assume much greater significance in patients with thalassemia. Initial trials with interferon plus ribavirin in patients with thalassemia resulted in a 30% increase of blood requirement and prompted an associated increase of chelation therapy. Furthermore, the response to treatment is low in the absence of proper iron chelation or in the presence of hepatic siderosis. Since a large number of thalassemic patients can now live well into their forties, it seems unwise to deny them the best available indicated treatment for this potentially long-term fatal complication. In the era of availability of new Direct Antiviral Agents (DAAs) with higher efficacy and safety, approved for patients above the age of 18 years, treatment of HCV infection in well-chelated thalassemics should be considered provided that treatment is conducted in centers with vigilant infection control procedures.

PID presenting as Cytopenias

Aisha El-Marsafy
Prof. of Pediatric
Faculty of Medicine, Cairo University

Primary immunodeficiency disorders (PID) present mainly as recurrent, unusual, severe infections. However, autoimmunity and a variety of hematological abnormalities might be associated or even being the single presenting features of such less common disorders. This presentation will focus on a few PID patients who presented mainly as cytopenias and will provide clues and ways to reach a timely diagnosis of such cases in order to institute life-saving therapy before it is too late.

The possible therapeutic role of black raisins on experimentally induced iron deficiency anemia in adult female rats

Fadia Abu-Zaid[1,6] , Sawsan M. Rohaeim[2,6] , Youssef A Jameel[3,6], Siham k. Abunasef[4,6], Fatin Al-Sayes[5,6], Soad Shaker[4,6] and Maha Ibrahim[6]
[1]Basic Medical Science, [2]Physiology Department, [3]Youssef Abdul Latif Jameel Scientific Chair of Applied Prophetic Medicine, [4]Anatomy Department, [5]Hematology Department, Faculty of Medicine, [6]King Fahd Medical Research Center, King Abdul-Aziz University, kingdom of Saudi Arabia

Background: Iron deficiency anemia is a challenging clinical problem with profound impact on the general health.
Objective: The current study aimed to assess the therapeutic role of black raisins in ameliorating the deleterious effects of experimentally induced iron deficiency anemia in adult female rats.
Material and methods: Twenty-five Swiss Albino female rats were divided into two groups; Group I: control (5 animals). Group II: (20 anemic animals). Anemia was induced by bleeding twice a week via orbital puncture (2.5 ml/time). Animals which developed iron deficiency anemia were further divided into two sub groups, GIIA: (10 animals each) given oral dose of ferric sulfate (200 mg/kg BW) for 12 weeks and blood analysis was done weekly till anemia is corrected. GIIB: were given oral 2 ml of raisins for 12 weeks. CBC, blood films and specimens from spleen were taken, fixed then processed for light microscopic examination.
Results: There was significant improvement of the general animal parameters with a significant increase in all blood parameters in raisins and iron treated bled rats compared to untreated group. The RBCs count, Hb concentration, HCT, MCV, MCH and MCHC in raisins treated group were nearly normal compared to the bleeding groups. The examined blood films showed apparently normal shape with central pallor. The examined splenic blood sinusoids in treated groups showed a control appearance. The collected data displayed that raisins had a protective effect against the changes evoked by iron deficiency anemia in rat erythrocyte and splenic parenchyma.
Conclusion, consumption of raisin could be considered a good natural source helping in treatment of anemia.

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Immunophenotypic heterogeneity in T-ALL

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Background: T-cell ALL (T-ALL) represents approximately 15% to 20% of all cases of ALL in Western countries. T-cell ALL has been sub-classified according to the stage of thymocyte differentiation or the stage of expression of T-cell–receptor protein but this approach has limited clinical usefulness. Objectives: To study the immunophenotypic heterogeneity of T-ALL in a clinically useful approach. Therefore, we limited our study broadly to TALL without going into details of subclasses of TALL.

Patients and methods: Flow cytometry data from T-ALL patients enrolled in SECI and King Fahad specialist hospital between 2003 and 2013 were assessed according to Dr. Campana's protocol; we collected all pediatric T-ALL cases. We identified 103 cases and analyzed their clinicopathologic, immunophenotypic and cytogenetic features.

All cases were evaluated by flow cytometry, using CD45 expression vs. side scatter to analyze the blast cell population. A panel of monoclonal antibodies was used specific for TdT, HLA-DR, CD1a, CD2, CD3 (cyt and surf), CD4, CD5, CD7, CD8, CD10, CD13, CD14, CD19, CD20, CD22 (cyt and surf), CD33, CD34, CD64, CD117 and IgM (cyt and surface).

Results: CD7 was found to be the most sensitive; it was positive in 93.8% of the TALL cases. CD5 and CD2 came out to be positive in 91.0% and 82.8% of the patients respectively, which is a reasonable sensitivity already expected based on previous studies. Surface CD3 was positive in 60.8% of patients which is much higher than previous studies. With respect to myeloid antigens, expression of CD13 and CD33 was detected in a small percentage of TALL cases (4.2% & 9.7% respectively).

HLA-DR was negative in the great majority of T-ALL cases (92.8%) while it usually shows strong reactivity in BALL and myeloid leukemia cases. The frequency of CD34 was 34.7%, CD10 was 39.4% and CD117 was 5.1%. Myeloid antigens, CD13 or CD33, was co-expressed with CD34+ triple CD3/CD4/CD8 negative in 7.1% of cases (Immature phenotype that resembles the EPT-ALL recently defined high risk group. These data suggest that CD13+ or CD33+ T-ALL is derived from the earliest thymic precursors, which possess dual T and myeloid potential.

Conclusion: Our results demonstrate significant heterogeneity among cases of pediatric T-ALL. There is evidence in normal hemopoietic development that the T and B lineages separate prior to loss of myeloid potential, rather than separation of a common lymphoid precursor from a common myeloid precursor. Therefore, a hierarchy of progenitor cells may exist in T-ALL, with the malignant transformation of a hemopoietic progenitor cell giving rise to a leukemia stem cell that retains the key properties of self-renewal and proliferation but fails to differentiate completely.

Biochemical and Histological study on the effect of Bone Marrow Derived Cells in Treatment of Cardiomyopathy in Adult diabetic Albino Rat

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Background: Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia, the majority of diabetic patients (65-80%) die from heart disease. Stem Cell transplantation can rehabilitate pancreatic islets and reintroduce physiological secretion of human insulin; it also induces myogenesis, angiogenesis and remodeling of diabetic cardiomyopathy.

Objectives: The aim of the current study is to evaluate the beneficial effect of transplantation of isolated, expanded and cultured bone marrow-derived Mesenchymal Stem Cells (MSC) from rats as treatment of experimentally induced diabetic cardiomyopathy in other adult albino rats.

Material and Methods: This work was carried on 55 adult albino rats divided into four groups: Control, BM MSCs donors, Diabetic non-treated and BMMSCs treated group which was further subdivided into IV A and IV B, this group received MSCs intra-peritoneal single dose immediately after confirmation of the diabetes and after eight weeks. The animals were subjected to biochemical study for blood and urinary glucose as well as histological and immunohistochemical study using light microscope.

Results: Biochemical analysis of MSCs treated diabetic rat showed that there is significant decrease in mean values of blood and urinary glucose level in comparison to diabetic non treated group 3. However it did not reach the control level. Histological and immunohistochemical findings confirmed biochemical data.

Conclusion: It could be concluded that MSCs improved cardiac structure in DCM rat model, possibly through angiogenesis and attenuation of cardiac remodeling. This suggests that MSCs transplantation is a potential therapy for diabetic cardiomyopathy.

The application of eosin maleimide-binding test in the diagnosis of hereditary spherocytosis in children

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Background: Conventional diagnosis of hereditary red blood cell (RBC) membrane disorders, in particular hereditary spherocytosis (HS), is labor intensive, time consuming and requires at least 2 ml of blood which might be impractical in the neonatal period.
Participants and methods: We evaluated the use of eosin-5-maleimide (EMA) as a rapid screening test for patients with HS. RBCs from 74 healthy controls and 66 anemic children (35 HS and 31 other hemolytic anemia (10 cases diagnosed as thalassemia, eight cases of autoimmune hemolytic anemia, one case of ovalocytosis and 12 cases of undiagnosed hemolytic anemia) were stained with EMA and analyzed for their mean fluorescence intensity using flow cytometry.
Results: RBCs from patients with HS showed a greater degree of reduction in mean fluorescence intensity of EMA compared with those from normal controls and patients with other hemolytic diseases.
Conclusion: The present study showed that the flow cytometric-based method is a simple, sensitive and reliable diagnostic test for RBC membrane disorders using a small volume of blood, and results could be obtained within 2 hours. Such a method could serve as a first-line screening for the diagnosis of HS in routine hematology.

Splenectomy for patients with β - thalassemia major: Long-term outcomes

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Background: Total splenectomy for thalassemia major is restricted by concern of its long-term outcome.

Objectives: The aim of this study was to assess the long-term outcomes of splenectomy for patients with β - Thalassemia major.

Patients and methods: The study included 70 patients with transfusion dependent β-thalassemia major. Patients were classified into 2 groups, 35 patients had previously undergone splenectomy (S group) and 35 patients had β- thalassemia without splenectomy (NS). Patients were assessed by reviewing medical records, taking medical history and performing clinical examination. In addition to complete blood count, liver function tests, and serum ferritin were done. Assessment of lymphocyte populations was done by flow cytometry. These investigations were done at least 2 years after splenectomy.

Results: The mean age of splenectomy was 6.68 ± 2.54 years and the mean postoperative follow-up period was 6.26 ± 3.03 years. Splenectomy improved anaemia but did not reduce iron burden; more patients on regular iron chelation were found after splenectomy. RBC count, mean haemoglobin level, haematocrit and RBC indices were significantly elevated after splenectomy. Platelet count increased significantly in S group (644.700 ± 299.40 x 109/L). There were no significant differences in T- lymphocytes populations between both groups. Total memory B lymphocytes and IgM memory B lymphocytes were lower in S group compared to NS group. No overwhelming post-splenectomy infection (OPSI) was reported in this series. Post-splenectomy portal vein thrombosis was reported in one case (2.9%).

Conclusion: On long-term follow up after splenectomy in thalassemia major, thrombocytosis and thromboembolic risk persist. Splenectomy improves anaemia but does not reduce iron burden or blood transfusion requirement. Even with the reduction of memory B lymphocytes after splenectomy, proper preoperative vaccination can reduce the risk of OPSI.

Study of some apoptotic and fibrotic markers in myeloproliferative neoplasms

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Background: Chronic myeloproliferative neoplasms are clonal hematopoietic stem cell disorders characterized by proliferation, in the bone marrow, of one or more of the myeloid lineages. One of the important bone marrow findings that overlap the various CMPN entities is fibrosis.

Objectives: To evaluate the role of NF-k β in patients with Chronic Myeloproliferative Neoplasms (MPB) in relation to some apoptotic (cathepsin, TGF β) and fibrotic markers (b-FGF, BM reticulin score).

Patients and Methods: The study included 20 patients with de novo CML (group A) who received imatinib 400 mg/day for 3 months; group B included 20 patients with other MPN [Essential thrombocytosis (ET), polythycemia vera (PV) and idiopathic myelofibrosis (IMF)] who received hydroxy-urea orally in a dose of 0.5-2g/day for 3 months. Ten age and sex matched healthy individuals served as a control group. All patients were subjected to thorough history taking, full physical examination and laboratory investigations including CBC, BM biopsy and reticulin stain. NF-k β, cathepsin B, TGF-β and b-FGF were measured using ELISA technique.

Results: The mean values of NF-k β in CML patients (group A) and non CML-CMPN (group B) were 165.20 ± 26.96 and 200.79 ± 92.00 pg/ml respectively while after treatment the values were significantly decreased to 104 ± 25.36 and 134.2 ± 96.89 pg/ml respectively (p= 0.013, p= 0.001). Cathepsin B increased significantly in group A after 3 months of therapy (From 71.90 ± 39.85 to 126.80 ± 60.42 pg/ml in CML, while in group 2 it decreased significantly from 123.47 ± 50.67 to 67.50 ± 42.50 pg/ml (p= 0.001 and 0.001 respectively). The level of TGF- β decreased in CML from 101.20 ± 38.16 to 52.20 ± 22.06 while in group 2 it decreased from 128.53 ± 63.54 to 87.45 ± 48.87 pg/ml (p=0.001) b-FGF level also decreased after treatment; in CML it decreased from 14.68 ± 4.33 to 11.03 ± 3.22 (p=0.042), while in group 2 it decreased from 35.65 ± 9.85 to 15.52 ± 3.2 pg/ml (p=0.001). Reticulin stain score of BM biopsy showed significant decrease of BM fibrosis in group A and B (p= 0.036 and 0.0001 respectively).

Conclusion: NF-κ β, TGF-β and Cathepsin B are beneficial in monitoring the disease progression and response to treatment in myeloproliferative neoplasms. These data support further use of these markers in the prognosis of CMPN.