The First International conference of Kurdistan Society of pathology

Kurdistan Society of Pathology
KSP
Since 2017

Erbil - **Rotana Hotel**
1-3 **May** 2019

Final BOOK
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Welcome Note

Dr.Saran A. Nooruldeen
President of the society & President of the conference

On behalf of **Kurdistan Society of Pathology** we are very proud to host the first international conference of Pathology 2019 in the oldest city in the world "**Erbil**" the capital of Kurdistan

The conference has invited eminent international experts. Great effort has been made to structure a program of topics to meet the needs of pathologists in their routine daily practice.

We warmly welcome all of you to Hawler this scenic historic city of kurdistan and are excited that you are part of our conference.

Thank you again for making this gathering one of top scientific events of the year.

Wishing you awonderful conference and enjoyable time

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Committees

Executive committee

Saran A.Nooruldeen (President)
Abdulkadir Nakshbandi
Firiad Shafik Hiwaizi
Azad Hassan Faraj
Adil Abozaid Eissa

Scientific committee

Nawsherwan S. Mohammad
Ava T. Ismaeel
Jalal Ali Jalal
Rafil Toma
Shorish Jamil Raza
Sahand Ismail
Ranan kardagh
Abdulrahman Towfeeq Saadi
Savan Saead Azeez

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Fairuz A. Kakasur
Rivan hermiz
Haval H. Abdulqader

Social committee

Rivan Hermiz
Kalthuma Salim Hamad Ameen
Hivi M. Mahmoud
Ari Mohammcd Abdullall
Gayllan Qadir Ali

SPEAKERS

SPEAKERS

- **Ali Al Bahrani** (UK)
- **Ali Mahdi** (UK)
- **Awatif al Nafusi** (UK)
- **Ayad Atra** (UK)
- **Cynthia Tejares** (UK)
- **David Bevan** (UK)
- **Ferial Ahmad** (UK)
- **Firiad Hiwaizi** (UK)
- **Gianluca Giadano** (Italy)
- **Ibrahim M NAWROZ** (UK)
- **Ilse Bollen** (Netherland)
- **Ismail Matalka** (Jordan)
- **Jean El-Cheikh** (Lebanon)
- **Joanna Large** (UK)
- **Maadh Alduri** (UK)
- **Nuha AL-Haboobi** (UK)
- **Rawand Al-Qadi** (Iraq-Kurdistan)
- **Stephen Doherty** (UK)
- **Walid Al Wali** (Qatar)
- **Waria Mohamid** (UK)
- **Ziyan T. Salih** (USA)

شركة المجموعة العالمية الكوردية
Global Kurdi Group Company
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Global Kurdi Group Company for Pharmaceuticals & Medical Appliances are founded in Kurdistan in 2012 as sister company for AL-GHARI For Marketing & International Trade Company the exclusive distributor for Roche Diagnostics in Iraq and for number of multinational Pharmaceutical, medical and laboratory companies.

Mission:

Global Kurdi Group Company is committed to supplying superior services. By well-trained staff in manufacturers company our staff have more than 20-year experience in medical and laboratory supply and services support and holding certificates of professional training in Roche & Stago official training facilities.

Our Achievements,
Installed 300+ laboratory device in Kurdistan Region, dealing with all laboratories, make quality Mutation in Diagnostics tests,

Service provided,

1- Sell And invest new laboratory devices
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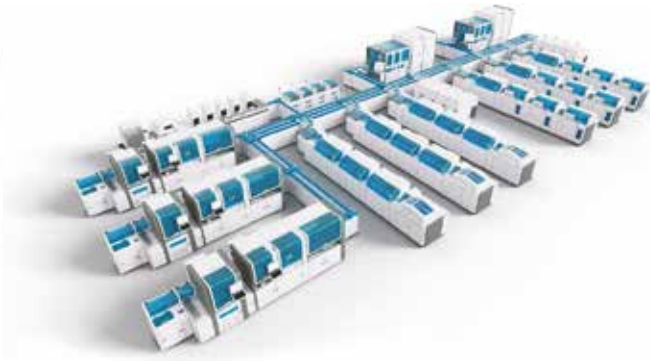
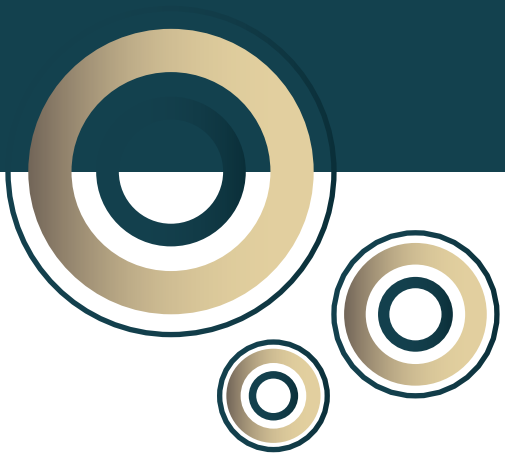
4- Regular visit to insure quality for our provided services
5- Preventive maintenance for all instruments as recommended by the manufacturers
6- Provide training for laboratory staff and provide them with all needed information's



SPEAKERS
Bios.



Ali Al Bahrani (UK)

Consultant 1985
Professional memberships:Royal College of Pathologists
Clinical interests: Metabolic lipid/bone/obesity and prevention of cardiovascular disease, treating high cholesterol and blood lipds, obesity, fatty liver, management of osteoporosis,Paget's Bone disease and diseases related to calcium disorder.

MBCh.B,MSc,Chem Path, CSi FRCPath

I have been fortunate to work in eminent metabolic units in the UK - Guy's & StThomas'and Royal Liverpool University Hospitals, where I have developed a great interest in the area of metabolic medicine. I have published high standard research internationally in the area of cholesterol, blood lipids, calcium and osteoporosis.

The areas of metabolic medicine in which I like to offer is an expertise are management of raised cholesterol and raised triglycerides, metabolic bone diseases - involving management of osteoporosis,Paget's disease, high/ low calcium, low vitamin D, high/low phosphate, gout and parathyroid gland disturbances.

Ali Mahdi (UK)

He undertook specialist haematology training in Cardiff, UK.

He is currently working at the Royal Gwent hospital, Newport where he is lead consultant for diagnostics and myeloid disorders.

He has a keen interest in clinical immunophenotyping and acute myeloid leukaemia, acting as principal investigatory on numerous national and international clinical trials.

He is also very active in medical education having developed the e-learning website and social media pages under the name of Blood Academy.

Awatif al Nafusi (UK)

MBChB, Mosul University, Iraq 1973
D. Phil Oxford 1984,
MRCPath, London 1983,
FRCPath, London 1995

Membership
THE BRITISH SOCIETY OF CLINICAL CYTOLOGISTS (BSCC)
THE BRITISH GYNAECOLOGICAL CANCER SOCIETY
THE INTERNATIONAL SOCIETY OF GYNAECOLOGICAL PATHOLOGISTS

Internationally known best speaker on clinical teaching materials: Invited speaker 4-2 times a year overseas.
Lecturing locally, in UK and abroad on challenging gynaecological and sarcoma topics, 12-7 lectures per year
Develop a unique style and a simplified approach in teaching histopathology for practicing pathologists and trainees- resulted in the publication of a large textbook "Tumour diagnosis by pattern analysis "A-Z Guide", second edition published in May 2005 and all sold. It is used as standard postgraduate textbook (1338 pages with 2000 coloured microphotographs)
Active role in departmental teaching; participated for many years in undergraduate teaching

Introduced and organised the Advanced Histopathology courses in Edinburgh and also other courses internationally and nationally:
The Edinburgh Advanced Histopathology course is a comprehensive week long course in histopathology, suitable for Consultant pathologists and Senior Trainees in preparation for the MRC Path examination (started 1995 and stopped 2010 and started again the last two years as Gyn and sarcoma days). Each day of the course is essentially free standing. The course is run on the basis of practical approach to histological diagnosis. There are lectures, slide workshops, slide quiz sessions and mock examination for trainees.
The organisation includes inviting speakers, preparation of handouts, workshops and lectures and the budget holding.
Organiser of the annual SCAN-Gyn update days for several years.
Organiser of overseas courses: In Cairo 2005, in Tunisia 2007, in Rotterdam 2007, in Oman 2007
Play a significant role in teaching pathology to professionals (pathologists, oncologists and medical scientists), representing Edinburgh at International level
MEMBER OF THE CALEDONIAN BRANCH OF THE ASSOCIATION OF CLINICAL PATHOLOGISTS

Membership of committees,
RCPATH/NHSCSP Working Party on Histopathology Reporting in Cervical Screening committee
Member of Edinburgh Combined gynaecological-oncology group
Member of Edinburgh Sarcoma group
Member of British Bone and Soft tissue Tumours group

Ayad Atra (UK)

Consultant Paediatric Haematologist/ Oncologist at the Royal Marsden and St George's Hospitals

Consultant and the Director of the bone marrow transplantation program in the Royal Marsden Hospital

Head of paediatric haematology/oncology at the National Guards Hospital in Jeddah / Kingdom of Saudi Arabia

Main areas of interest is childhood leukaemia/lymphoma and bone marrow transplantation

Cynthia Tejares-Cenal (UK)

She is a Senior Infection Prevention Control Nurse Specialist in a London University Hospital in the UK. She has led many improvement projects/initiatives in the last 16 years whilst working in infection control.

Prior to joining infection control, she has extensive clinical experiences as a senior nurse both in acute & community settings, in the UK and overseas.

As a registered nurse, she holds a degree in Nursing, MBA and Health Protection. She is currently working towards completion of her MSc in Infection Control.

David Bevan (UK)

FRCP FRCPath UK

David Bevan (b. 1949) is a Consultant Haematologist specialising in Haemostasis & Thrombosis at Guy's and St Thomas' NHS Foundation Trust (GSTT), London, UK.

A graduate of the Medical School at the University of Newcastle-upon-Tyne (NUMC), his postgraduate general medical training took place in the North of England, followed by specialist Haematology training at St George's Hospital, University of London, and The Royal Marsden Hospital (RMH), Sutton, Surrey. He qualified MRCPath in 1983 and was appointed Senior Lecturer in Haematology and Honorary Consultant at St George's Hospital (SGH) in 1884. He became Clinical Haematology Lead and NHS Consultant / Hon Senior Lecturer at SGH in 1995. He was Consultant Haematologist and Director of the Haemophilia Reference Centre at GSTT from 2016-2008.

Has researched into, and written on, several areas of Haematology, with one hundred publications in peer-reviewed journals on subjects including leukaemia, MDS, lymphoma, Sickle Cell Disorders, Haemophilia, acquired bleeding disorders and therapeutics, as well as chapters on Haematology and the investigation of bleeding disorders in standard texts. His current research interest is novel treatments in Haemophilia.

Ferial Ahmad (UK)

1966 – MBCHB, Baghdad University Medical School

1974 – DCP, University of London

1978 – FRCPATH, Royal College of Pathologists

2011-1980 – Consultant Medical Microbiology and Infection Control doctor for Ealing Hospital NHS Trust

2003-1991 – External Examiner for the three Kurdistan Medical Schools

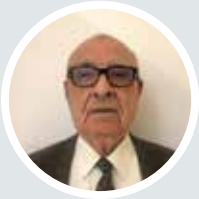
-2004present – offered advice to different Microbiology departments in Erbil (Rizgari, Raperin and the Central Pathology Laboratory)

-2011present – Pathology venture with the Royal College of Pathology; visited all laboratories in Kurdistan with the Royal College of Pathology team to assess the level of performance and to decide which laboratory would be the major training centre for doctors who will be sitting the FRCPATH part 1 exam. A decision was made by the visiting RCPATH team headed by the president. They nominated:

1. The Haematology laboratory in Duhoke.
2. The Histopathology laboratory at Sulymani.
3. The Rizgari Laboratory in Erbil for medical microbiology and chemical pathology training.

Over the past two years I have been nominated as the visiting advisor to several laboratories of microbiology in Erbil. During this time I gave lectures on microbiology and infection control and also organised workshops with the participation of other colleagues, including Dr Walid Alwali from Sheffield and Dr Maysoon Alzahawi from London. I helped to establish infection control services at Rizgari hospital by nominating the infection control team as well as members of the infection control committee.

I would like to continue offering advice and assistance to various laboratories and infection control teams who are in need of help. I would also like to see the Microbiology department at the Rizgari hospital to function at the same level as a laboratory in the West.



Firiad Hiwaizi (UK)

MRCP

He attended primary and middle schools in Koya and then completed secondary school in Baghdad ion 1960. He went on to Baghdad Medical College from which he graduated in 1966. Following military service and medical rotational service, he was appointed as Permanent Resident in general medicine in 1969 at the Medical City Hospital. In 1972 he was awarded a scholarship to study MCRP in the UK with a special interest in clinical haematology.

He completed a number of courses and several jobs in different hospitals in the UK and gained MRCP (UK) degree in 1976. He then started his haematology training as registrar and then senior registrar at St Georges Hospital in London. This involved undertaking morphology and running outpatients clinics and supervising inpatients, with haematological diseases. During this time, he also for 6 months at both the Bone Transplant Unit at the Royal Marsden Hospital and at the South London Blood Transfusion Service.

Finally he worked as consultant haematologist at Rotherham General Hospital until officially retiring in 2015. He has continued haematology practise as a locum in other London hospitals.

In all of his roles, in addition to his medical responsibilities, he was involved in the teaching of undergraduate students and post graduate doctors.

Since the early 1990s he has acted as an external examiner in the final year medical student examinations in Kurdistan and also lately in teaching post graduate doctors who are training in laboratory and clinical haematology

Gianluca Gaidano (Italy)

MD, PhD
Gianluca Gaidano is Professor of Hematology at the Medical School of the University of Eastern Piedmont (Universita' del Piemonte Orientale), Novara, Italy. He is also the Director of the Division of Hematology of the Academic Hospital "Maggiore della Carità di Novara", the University Vice-Rector for International Affairs, and the Director of the Medical Biotechnologies Master Degree Program at the University of Eastern Piedmont. He is a member of EHA, ASH, ASCO, AACR, Henry Kunkel Society, SIE and SIES, and a former President of the Italian Society of Experimental Hematology He is currently a board member of EHA, of the Italian Lymphoma Foundation (FIL), of the Italian Society of Hematology, and of the GIMEMA Working Party on chronic lymphoproliferative disorders. He is currently Chair of the Global Outreach Program of EHA. He has served in the EHA Scientific Program Committee and in the Fellowship and Grant Committee of EHA, and is currently serving in the EHA Education Committee. He started his medical career at the University of Turin, where he received his M.D. (1987) and Ph.D (1991), and became a specialist in Internal Medicine and Hematology. From 1990 to 1994, he was at Columbia University (Dalla-Favera's lab), New York, where he trained in molecular hematology. His research interests relate mainly to the clinical implications of the molecular genetics of lymphoid malignancies, with a particular focus on the development of new diagnostic and prognostic markers as well as targeted treatments for B-cell lymphoma and chronic lymphocytic leukemia (CLL). Using a genomic approach, his research group recently identified several novel genetic alterations predicting poor outcome in CLL. Other fields of interest concern hematologic neoplasias developing in immunodeficient patients. He has contributed to several hematology and oncology textbooks, including the DeVita, Hoffman, and Magrath. He has published and co-authored over 600 scientific articles (H-index 73 according to Scopus, Elsevier), of which a significant number in high-impact journals, including Nature, N Engl J Med, Lancet Oncol, Nature Genetics, Blood, J Exp Med, J Clin Oncol, PNAS, J Natl Cancer Inst, Haematologica, Cancer Res, Clin Cancer Res, Leukemia.

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Ibrahim M. Nawroz (UK)

President of Caledonian Branch Association of Clinical Pathologist.
MBChB MRCPath, FRCPath, DIP FM.

Senior Consultant Histopathologist. NHS FIFE , Scotland , UK

Honorary Senior Lecturer St Andrews Medical School

Ilse Bollen (Netherland)

Bachelor of science degree in Bio-Pharmaceutical Sciences at the University of Leiden

Master degree in Cardiovascular Research at the VU University in Amsterdam

PhD at the department of Physiology at the VU university medical center in Amsterdam the Netherlands in early 2018

Ismail Matalka (Jordan)

Professor of Pathology and Laboratory Medicine at School of Medicine at Jordan University of Science and Technology in Irbid, Jordan and a Consultant Pathologist at King Abdullah University Hospital. He served as CEO of King Abdullah University Hospital, which is the main tertiary hospital in North Jordan of 620 bed capacity between September 2016 and September 2018 and as the Dean of School Medicine between September 2014 and September 2016, and before that as Vice Dean for 4 years and Chair of Pathology and Laboratory Medicine at School of Medicine and King Abdullah University Hospital for 14 years. He is the Past President of Arab Division of International Academy of Pathology (IAP) and the Jordanian Society of Pathologists. Since May 2015 he is working as the International Advisor of the Royal College of Pathologists in UK for MENA region. He has been the Secretary of Arab Board of Pathology for the last eight years and served as Chairman of the Arab School of Pathology for six years for the period 2013-2007.Since June 2018 he is a Member of Board of Trustees, Al-Balqa` Applied University by a Royal Decree.

Dr. Matalka finished his undergraduate study at Jordan University of Science and Technology in 1991 and completed his pathology residency at Jordan University Hospital in 1996.He pursued further training in Glasgow for five years where he became a Fellow of the Royal College of Pathologists in 2000 and obtained the CCST in the UK in 2001 and developed special interest in Gastrointestinal and Liver pathology.

Dr Matalka has published 63 publications and his research interest varies but focus on Pathology and epidemiologic characteristics of tumors and standardization and quantification of pathological features and incorporating these in the diagnostic applications. He has served as a reviewer for many local, regional, and international medical Journals and evaluator for the Scientific Research Support Fund for grants and awards and a referee for faculty staff promotion for many Arab universities.

Professor Matalka served on many in Boards of Directors for academic and health institutions and joined many national and regional committees of health care and Laboratory accreditation and regulations and licensing.

He has also special interest in medical education, curriculum development, and assessment and worked as assessor for most of the Jordanian medical schools accreditation by the Higher Education Accreditation Commission. He is a member of committees for the recognition of non-Jordanian universities and equivalence of certificates in the Ministry of Higher Education and scientific research.

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Jean El-Cheikh (Lebanon)

I received my MD from the Medical School Federico II at the University of Naples in Italy in 1999, followed by advanced training in Bone Marrow Transplantation for both autologous and allogeneic transplants, as part of the Hematology training at the Post Graduate School of Hematology and the Institute Seragnoli of Hematology and Medical Oncology, University of Bologna, Italy. In 2003, I moved to France and until 2015 I was a Junior Faculty "Chef de Clinique Assistant" (Onco-Hematology Service II) at the Institut J. Paoli - I. Calmettes, Marseilles. Then, I moved to Lebanon in 2015 and joined the Bone Marrow Transplantation program at the American University of Beirut Medical Center as an Assistant Professor till present. I have a significant experience in the field of multiple myeloma and transplantation, with a special clinical focus on developing reduced-toxicity conditioning regimens and immunomodulation. I have clinical and research experience in infectious diseases and supportive care in the context of intensive therapy for hematologic malignancies. It is in that perspective that I have written so far around 120 papers focused primarily on Bone Marrow Transplantation (BMT), Hematologic Malignancies, the supportive care and antifungal prophylaxis in heavily immunosuppressive patients. During the past 3 years, I have initiated, conducted and published more than 45 studies in these areas, with a major focus on the management of the intensity of the conditioning regimen, the personalized conditioning for transplant, the feasibility of transplant in very elderly patients, the use of alternative donors from mismatched donors and the introduction of the haplo-identical transplantation from related donors in Lebanon, the acute and chronic Graft versus Host Disease (GvHD), immunomodulation post-transplant, the use of the monoclonal antibodies for prevention and/or treatment of the relapse, and finally the infectious complications (viral, fungal and bacterial) in our transplanted patients at AUBMC.

I am a member of many scientific societies such as the European Group of Blood and Marrow Transplantation (EBMT), the European Hematology Association, and many French and European societies. Also, I serve as a reviewer for major journals such as Blood, Transplantation, Bone Marrow Transplantation, Leukemia & lymphoma, European Journal of Hematology, and Blood Cancer Journal, and editorial board member in Bone Marrow Transplantation, Journal of Clinical Research and Medicine, American Journal of Epidemiology & Public Health, and Clinical Microbiology and Infectious Diseases.

Joanna Large (UK)

Clinical Nurse Specialist
Joanna began her nursing career in 2003 having previously worked in policy for international development charities. She joined Kings College Hospital and spent several years in general haematology before becoming junior sister on a bone marrow transplant ward. She became a clinical nurse specialist in 2012 and works supporting patients with myeloid disorders specifically Paroxysmal Nocturnal Haemoglobinuria, Chronic Myeloid Leukaemia and Myeloid Proliferative Neoplasms.

Joanna regularly trains nurses in the community and acts as their clinical lead. She is a prescriber and will soon become one of few nurses within her hospital able to prescribe oral chemotherapies. She speaks widely on PNH and leads the PNH nurses network. She is also interested in how the environment affects patient experience as has raised money for art work and comfortable chairs within her clinical areas. She is passionate about empowering the role of the nurse as central to patient experience and the multidisciplinary team.

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Maadh Aldouri (UK)

Mb,ChB, FRCP, FRCPath
Consultant Haematologist, King's College Hospital and Medway Mritime Hospital
Clinical Director of Cancer, Diagnostics and Clinical Support Services, Medway Foundation Trust
Clinical Director of International Activities, The Royal College of Pathologists

Dr Aldouri graduated from College of Medicine/Baghdad in 1978 and started training in Haematology in the UK at the Royal Free hospital in 1981, where he also carried out 2 year clinical research in thalassaemia. He worked in Saudi Arabia for 10 years until 1999 when he returned to the UK to work at King's CollegeHospital/London and Medway Maritime Hospital/Kent and became Chairman of Kent Haematology Group in 2001.

He started International work with the Royal College of Pathologists in 2011 in Kurdistan/Iraq Region and became International Advisor for MENA Region for the RCPathin 2012, and Director of International Activities in 2014.

Dr Aldouri led on many projects to support Pathology training and sevices in many Countries, as well as establishing centres for parts 1 and 2 FRCPath examinations. During his term the College signed several Memoranda of Understanding with National Pathology Training bodies in several countries.

Nuha AL-Haboobi (UK)

Baghdad medical university 1978

Trained in Manchester, Sheffield and Birmingham

Consultant Chemical Pathologist in west wales hospital in 1986

Special interest in Endocrine particularly Gynecological Endocrinology

Rawand Al-Qadi (Iraq-Kurdistan)

M.B.Ch.B

MSc Molecular medicine university of Sheffield

Stephen Doherty (UK)

Applied Biology University of Ulster (BTEC HND)

Applied Biochemical Sciences with Diploma in Industrial Studies

Walid Al-Wali (Qatar)

MBChB,FRCPath,MD,FRCPEdin.

Senior Consultant Medical Microbiologist and Head of Department

Vice-Chair of Infection Prevention and control Committee of Al-Wakra Hospital

Chairman of the Infection Prevention and control Committee of the Ambulatory Care Centre Hamad Medical Corporation, Doha, State of Qatar (2017 to-date).

He was an external advisor to the Care Quality Commission (2009 – 2006) and was involved in inspecting several hospitals in relation to compliance with the Hygiene Code.

He was also a member of the National Advisory Group in the reduction of MRSA and HCAIs and has assisted in reducing HCAIs in NHS Trusts.

He led the Level 7 Credit 30 Healthcare Associated Infections Module at Sheffield Hallam University

He co-led the Medical Leadership Program for Iraqi doctors, dentists and pharmacists

He was also instrumental in the education and training of national and international doctors, nurses, dentists and pharmacists and biomedical scientists including training

Assistants at the University and regional NHS Hospitals.

five-year memorandum of understanding between the Iraqi Ministry of Health and Sheffield Hallam University was established to educate and train Iraqi

Waria Mohamid (UK)

Consultant Cellular Pathologist with 30 years of experience at the NHS consultant level in the field of my speciality in UK.

I have been the lead educational supervisor for the department for over 10 years. Currently I am the Royal College tutor for my Trust as well as the Royal College of Pathologists (Eastern Region) Professionalism Lead/ advisor. In addition, I was the Council member for the Association of Clinical Pathologists UK for three years up to June 2014 plus trained and qualified CPA Inspector and Cancer Peer Reviewer.

I have been the lead pathologist of my trust in Urology, Breast, Head & Neck, Skin / Dermato pathology plus Gynae and Thyroid/ Head & Neck. Also, I regularly undertake Audits projects to monitor quality of work and contribute to national research initiatives and publish my own cases. I have always been involved in teaching and training of medical staff in the department as well as under-graduate students
I have given lectures, organised work-shops and participated in training courses for the benefit of junior pathologists. I have also organised practical post mortem sessions in the field of Coronial post mortems for the London region SPR's.

My last overseas mission was in Dec 2013 which I organized and delivered a week post-graduate soft tissue and dermato-pathology course for the benefit of Kurdish and Iraqi pathologists. My previous visit was in October 2011 which was a preliminary visit with my other pathology colleagues from UK to the Kurdistan region of Iraq was through Inter-Collegiate Iraq Liaison Group (ICILG) which involved arranging work-shops, giving lectures and inspecting facilities. Also it offered me the opportunity to give advice and guidance for both trainees and local pathologists. My previous role was the Mount Vernon Cancer pathology network lead which offered me the opportunity to have been involved in the shaping up of pathology cancer services across the network leading the agenda for implementation of the National Cancer strategies.

Also, I have my own large personal multi-disciplinary teaching slide collection set which includes very rare and interesting pathology cases set aside for the benefit of our trainees and overseas pathology visitors.

Ziyan T. Salih (USA)

M.D., FIAC

Associate Professor
Director, Cytopathology
Director, Cytopathology Fellowship Program
University of Louisville Hospital
Department of Pathology & Laboratory Medicine

EDUCATION: University of Salahaddin, School of Medicine, Erbil, Iraq, 1991

RESIDENCY TRAINING
Anatomic & Clinical Pathology, University of Mississippi Medical Center, Jackson, MS, 2006-2001

FELLOWSHIP TRAINING
Surgical Pathology, Emory University Hospital, Atlanta, GA, 2007-2006
Cytopathology, Emory University and Grady Memorial Hospitals, Atlanta, GA, 2008-2007

CERTIFICATIONS:
Diplomat in Anatomic and Clinical Pathology, American Board of Pathology, 2005
Diplomat in Cytopathology, American Board of Pathology, 2008
Diplomat in Cytopathology, International Board of Cytopathology (Japan, 2017)

ACADEMIC APPOINTMENTS:
University of Arkansas for Medical Sciences, Little Rock, AR, Assistant Professor (2012-2008)
Wake Forest School of Medicine, Winston-Salem, NC, Assistant Professor (2018-2012)
University of Louisville Hospital, Louisville, KY (-2019Present)

AREAS OF INTEREST IN PATHOLOGY:
Breast and Gynecologic pathology, Breast Predictive Factor Testing
Cytopathology, Malignancy of Unknown Primary (MUP), Circulating Tumor Cells, FNA procedure performance and interpretation
Global health

PROFESSIONAL MEMBERSHIPS:
United States and Canadian Academy of Pathology
American Society of Clinical Pathology
North Carolina Medical Society
American Society of Cytopathology
International Academy of Cytology

Scientific PROGRAM

DAY 1 Wednesday 1st May 2019

5:00	6:30	**Registration**
6:30	7:30	**Opening ceremony**
7:30	8:00	**Opening Exhibition**

DAY 2 Thursday 2st May 2019

1st Session 09:10 - 10:10

Chairman : Sana Dlawar, Arteen Avo

9:00	9:20	Practical Approach of childhood NHL	Ayad Atra
9:20	9:40	The Clinical value of of molecular diagnosis in mature B cell malignancies	Gianluca Giadano
9:40	10:00	Art of Lipidology- Moving to a new LDL Cholestrol target	Ali Bahrani
10:0	10:10	Discussion	

2st Session 10:10 - 11:20

Chairman : Salah Abubakir, Azad Hasan

10:10	10:30	Role of Needle core biopsy in Breast brass pathology	Ibrahim Nawroz
10:30	10:50	Education and Training activities of the international Department of the RCPath and how it can Support pathology training in Kurdistan and Iraq in General.	Maadh Al Douri
10:50	11:10	The Role of the Royal College of Pathologists in training and assessment in the MENA region.	Ismail AL Matalka
11:10	11:20	Discussion	
11:20	11:50	Coffee Break	

3st Session 11:50 - 01:40

Chairman : Adil Abo Zaid, Sahand Isameil

11:50	12:10	Allogenic Stem cell transplantation	
12:10	12:30	Promoting an Ethos of quality improvement in pathology services	Walid Al Wali
12:30	12:50	Thalassemia Prevention	Firiad Hiwaizi
12:50	1:10	Molecular biology research essentials–discovery starts here	Rawand Al-Qadi
1:10	1:30	Allogeneic transplantation in thalassemia	Jean AlShekh
1:30	1:40	Discussion	
1:40	2:40	Lunch Break	

DAY 2 Thursday 2st May 2019

4st Session 02:40 - 04:10

Chairman : **Tamara Al- Mufti, Mustafa Hama Amin**

2:40	3:00	Antimicrobial Stewardship Programs	Firial Ahmed
3:00	3:20	The importance of external quality assessment	Stephen Doherty
3:20	3:40	MPN mutations	Ali Mahdi
3:40	4:00	Problem Solving in Microbiological Cases	Walid Al Wali
4:00	4:10	Discussion	

6st Session 04:10 - 05:30

Chairman : **Dereen ahmed, Gena J. Georgis**

4:10	4:30	Hemophilia: The basics	Devid Beman
4:30	4:50	Bone Biochemistry and Role of Bone remodelling in the management of the metabolic bone diseases	Ali Bahrani
4:50	5:10	MGUS What is the Significant?	Ali Mahdi
5:10	5:30	Challenges or Practical Approach to The Diagnosis of soft Tissue Tumours	Awatif Al Nafussi

DAY 2 Thursday 2st May 2019

Hall Hareer 1

5st Session 02:40 - 03:50

Chairman : **Ava Tahir**

2:40	3:00	Thyroid Indeterminate Pathology	Waria Mohmid
3:00	3:20	Approach of Cervical Cancer Screening	Ziyan Salih
3:20	3:40	Approach of Cervical Cancer Screening	Ziyan Salih
3:40	3:50	Discussion	

DAY 3 Friday 3st May 2019

7st Session 09:10 - 10:10

Chairman : **Gaylan Qadir, Abdulrahman Tawfeeq**

9:00	9:20	Leadership: The Key to the success of everyone's business	Walid Al Wali
9:20	9:40	Acreditation of Laboratory Medicine	Ali Bahrani
9:40	10:00	Obesity and Weight management clinics	Nuha Al Haboobi
10:00	10:10	Discussion	

8st Session 10:10 - 11:20

Chairman : **Rivan Hermiz, Jalal Ali Jalal**

10:10	10:30	Infilammatory Bowel Disease; the diagnostic Dilemmas	Ismail Al Matalka
10:30	10:50	Autoimmune Coagulopathy	Devid Beman
10:50	11:10	Myelodysplasia	Maadh Al Douri
11:10	11:20	Discussion	
11:20	11:50	Coffee Break	

9st Session 11:50 - 01:20

Chairman : **Alaa Makki, Nawsherwan Sadiq**

11:50	12:10	Infection Control in Hospital Setting	Cyntia Cenel
12:10	12:30	The Liquid Biopsy in Hematological Malignancies: Potential Applications for Clinical Management.	Gianluca Giadano
12:30	12:50	Molecular Histopathology in Era of Individualized Pathology	Ibrahim Nawroz
12:50	1:10	Use of MLPA in the Molecular Diagnosis of Gene Copy Number Alterations	Llse Bollen
1:10	1:20	Discussion	
1:20	2:50	Lunch Break	

DAY 3 Friday 3st May 2019

10st Session 02:50 - 04:00

Chairman : **Rawand Polus, Sazan Kadhim**

2:50	3:10	Role of Molecular Biology in Prognosis of Lymphoid and Meyloid	Ayad Atra
3:10	3:30	Anticoagulation in Venous Thromboembolism	Devid Beman
3:30	3:50	The Role of Chemical Pathologist in the Management of Gynaecological Endocrinology	Nuha AlHaboubi
3:50	4:00	Discussion	

12st Session 04:00 - 05:00

Chairman : **Payman Anwar, Ranan Qaradagh**

4:00	4:20	Monitoring Infection Control ie Audit/ Follow Up. Interactive	Cyntia Cenel
4:20	4:40	An Update of Molecular Biology, Rapid Diagnosis	Walid Al Wali
4:40	5:00	Antimicrobial Resistance Update	Firial Ahmed

DAY 3 Friday 3st May 2019

Hall Hareer 1

11st Session 02:40 - 03:50

Chairman : **Rafil Toma**

2:40	3:00	Approach of Cervical Cancer Screening	Ziyan Salih
3:00	3:20	Challenges in the diagnosis of tumours of the female genital tract	Awatif Al Nafusi
3:20	3:40	Two Audit topics of Sentinal LN Biopsy and Reporting of Testicular tumours	Waria Mohmid
3:40	3:50	Discussion	

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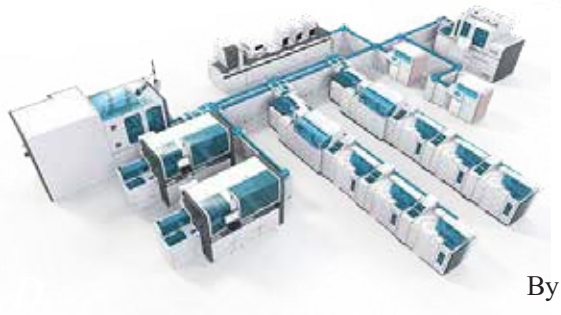

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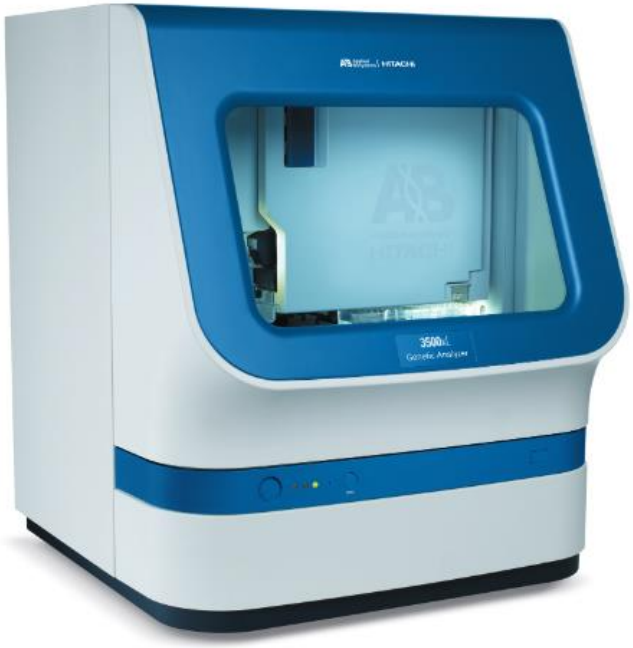

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RESEARCH
Abstract Poster

Distribution of HLA-A, B, C, DRB1 and DQB1 Genes and Haplotypes in the Kurdish Population of Kurdistan Region of Iraq

Rawand Al-Qadi, Saadallah F. Salih, Heleen AlDoski, Mariam Nabeel, Djwar Khasho

Kurdistan Regional Government, Ministry of Health, Directorate General of Health in Duhok Governorate, Duhok Specialized Laboratory Center.

Introduction

The Kurds are an ancient population in the Middle East, they are known to be inhabiting the mountains of Northern Iraq, South-Eastern Turkey, Western Iran, and North-Eastern Syria[1]. Due to political conflicts in the region, research have been very limited in the Kurdish population. However, the recent opening of the Kurdistan region of Iraq to the World has made it possible for researchers to start conducting studies in this population.

Methods

From the period of June 2012 to September 2014, 209 healthy individuals from the Kurdish ethnicity were recruited for the purpose of their HLA typing. HLA Typing was done by PCR-SSP[2] and Luminex SSO methods.

Results

In total 16 alleles were detected at the HLA-A locus, 27 at the HLA-B locus, 13 alleles at the HLA-C locus, 12 allele at the HLA-DRB1 locus and 5 alleles at the HLA-DQB1 locus. The most common alleles for each locus were HLA-A*02 (31.1%), HLA-B*35 (29.2%), HLA-C*07(33.5%), HLA-DRB1*11 (45.9%) and HLA-DQB1*03 (67.9%). The two locus haplotypes with the highest frequencies were B*35-C*04 (26.3%), followed by C*07-DRB1*03 (15.1, B*35-DRB1*11 (13.2%), A*02-B*51 (9.7%). The most common three locus haplotype was A*03-B*44-DRB1*04 (8 %). The most frequent four locus haplotypes were A*03-B*44-C*16-DRB1*04 (7.7%) and A*03-B*44-C*16-DQB1*03 (7.7%). The most frequent five locus haplotype was A*03-B*44-C*16-DRB1*04-DQB1*03 (6.6%).

Conclusion

This is the first HLA allele frequency study to be conducted on the Kurdish population in Iraq so far. These data will help to facilitate finding suitable donors for patients who could not find a donor from within their family.

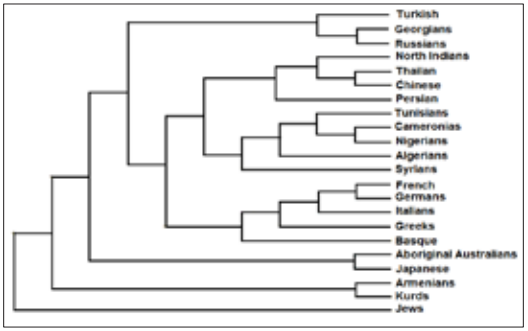

Figure 1. Phylogeny based on HLA allele frequencies in 22 different populations at the HLA- A locus with statistical bootstrap involving 1000 replicates.

HLA-A	Allelic frequency	HLA-B	Allelic frequency	HLA-C	Allelic frequency	HLA-DRB1	Allelic frequency	HLA-DQB1	Allelic frequency
A*01	0.1320	B*07	0.0410	C*01	0.0310	DRB1*01	0.0430	DQB1*02	0.2180
A*02	0.1700	B*08	0.0720	C*02	0.0220	DRB1*03	0.1510	DQB1*03	0.4310
A*03	0.1510	B*13	0.0120	C*03	0.0330	DRB1*04	0.1270	DQB1*04	0.0100
A*11	0.0960	B*14	0.0220	C*04	0.1600	DRB1*07	0.0790	DQB1*05	0.1750
A*23	0.0170	B*15	0.0290	C*05	0.0290	DRB1*08	0.0170	DQB1*06	0.1670
A*24	0.1390	B*18	0.0530	C*06	0.0500	DRB1*09	0.0120		
A*26	0.0690	B*27	0.0170	C*07	0.1890	DRB1*10	0.0190		
A*29	0.0240	B*35	0.1560	C*08	0.0190	DRB1*11	0.2610		
A*30	0.0380	B*37	0.0050	C*12	0.1650	DRB1*13	0.0930		
A*31	0.0220	B*38	0.0430	C*14	0.0720	DRB1*14	0.0620		
A*32	0.0550	B*40	0.0260	C*15	0.0810	DRB1*15	0.1100		
A*33	0.0380	B*41	0.0650	C*16	0.0980	DRB1*16	0.0260		
A*66	0.0050	B*44	0.1030	C*17	0.0500				
A*68	0.0380	B*45	0.0070						
A*69	0.0020	B*47	0.0020						
A*80	0.0050	B*48	0.0020						
		B*49	0.0330						
		B*50	0.0190						
		B*51	0.1560						
		B*52	0.0600						
		B*53	0.0120						
		B*55	0.0310						
		B*57	0.0120						
		B*58	0.0140						
		B*67	0.0020						
		B*73	0.0050						
		B*81	0.0020						

Table1. Allelic frequencies of HLA–A, B, C, DRB1 and DQB1 loci in Kurdish population of Kurdistan region of Iraq

References

1. Arnaiz-Villena, A., et al. (2001). "HLA alleles and haplotypes in the Turkish population: relatedness to Kurds, Armenians and other Mediterraneans." Tissue Antigens **57**(4): 308-317.
2. Olerup, O. and H. Zetterquist (1992). "HLA-DR typing by PCR amplification with sequence-specific primers (PCR-SSP) in 2 hours: an alternative to serological DR typing in clinical practice including donor-recipient matching in cadaveric transplantation." Tissue Antigens **39**(5): 225-235.

Detection of anti-HLA antibodies in pre-kidney transplantation candidates in the Kurdistan Region of Iraq

Rawand Al-Qadi, Saadallah F. Salih, Rafil Yaqo, Sirwan Najeeb

Duhok Specialized Laboratory Center, Directorate
General of Health in Duhok Governorate, Ministry of Health in the Kurdistan Regional Government of Iraq.

Introduction

The presence of anti-HLA antibodies in the sera of patients waiting for kidney transplantation is a well-known risk factor for development of antibody-mediated rejection (AMR), which eventually might lead to graft loss. The Luminex based bead detection of anti-HLA antibodies has facilitated the task of determining the sensitization status of these patients. In this study, we aim to determine the presence or absence of anti-HLA antibodies in candidates of kidney transplantation in the Kurdistan region of Iraq. Also, to determine the correlation between the Luminex data and the CDC crossmatches that we routinely perform for such patients.

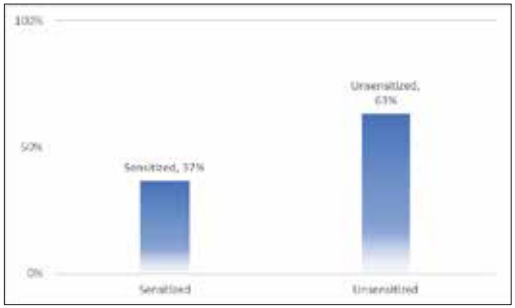

Figure 1. Sensitization pattern and percentages in all patients

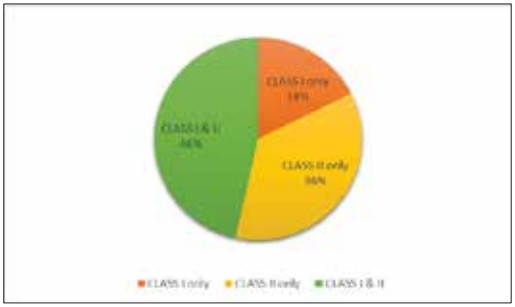

Figure 2. Presence of HLA antibodies to class I, II, and both class HLA antigens in sensitized patients

Methods

From the period between September 2014 and December 2016 we tested 462 sera for the presence of anti-HLA antibodies using Immucor's Deluxe LifeScreen, Class I and Class II ID (PRA), and LIFECODES LSA class I and II Single Antigens.

Results

Out of 462 sera, 170 (37%) were sensitized for class I or class II anti-HLA antibodies or both. Of the sensitized sera, 30/170 (18%) had only class I anti-HLA antibodies, 61/170 (36%) had only class II anti-HLA antibodies, and 79/170 (47%) had both class I and class II anti-HLA antibodies. In the same period of time there were 16 positive CDC crossmatches between potential recipients and donor, of which 3 of them (19%) had only class I anti-HLA antibodies, 13 (81%) had both class I and class II anti-HLA antibodies and none had class II anti-HLA antibodies alone. The mean fluorescence intensity (MFI) values for the positive CDC crossmatch were all greater than 8000.

Figure 3. The pattern on highly sensitized patients defined by PRA>80% in Patients sensitized to HLA antibody class I, class II and both in all patients

Conclusion

This study is the first study to be done in the Kurdistan region of Iraq for the determination of the anti-HLA antibodies by using Luminex bead technology. Further studies in the region are required for better understanding the immunological patterns of the patients of the region.

Prevalence and antimicrobial susceptibility of bacterial pathogens isolated from urine specimens received in Rizgary hospital - Erbil*

Ahmed A. Al-Naqshbandi[1], Mahmoud A. Chawsheen[2], Haval H. Abdulqader[1]

1 Laboratory Department, Rizgary Teaching Hospital, Erbil, Kurdistan Region, Iraq.
2 Faculty of Education, Soran University, Erbil, Kurdistan Region, Iraq.

*** This poster is cited from a published paper, with the same title, at the Journal of Infection and Public Health with doi: 10.1016/j.jiph.2018.11.005**

Abstract: Urinary tract infection (UTI) is a common health-associated problem worldwide. Like other medical conditions, UTI patients may suffer from poor treatment outcomes due to the emergence of antimicrobial resistance. Determining patterns of antimicrobial susceptibility in uropathogens will guide physicians to choose the best antibiotics for treating affected patients. **Objectives**: In this project we aimed to evaluate the frequencies of pathogens associated with UTI and their antimicrobial susceptibility patterns. **Methods**: This study was conducted on 2692 urine samples of patients visited Rizgary Teaching Hospital in Erbil city. Aerobic bacterial growth identification and antimicrobial susceptibility tests were performed using VITEK®2 compact system. **Results and discussion:** Our data show that more than 20% of all studied samples were negative for bacterial growth; only 16.72% of them were pathogenic bacteria in which 82.44% of them were Gram negative bacteria (GNB) and the rest were Gram positive bacteria (GPB). *Escherichia coli* was the most frequent, and *Acinetobacter baumannii* was the most resistant GNB. *Staphylococcus haemolyticus* was the most frequent, and *Enterococcus faecalis* was the most resistant GPB. In general GNB were highly resistant to Ticarcillin and Cefepime, and GPB were also resistant to Ticarcillin, and Tigecycline antibiotics.

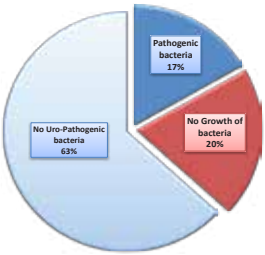

Figure 1: Pi-charts showing detection and distribution of bacterial growth isolated from urine samples.

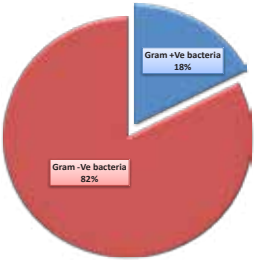

Figure 2: Pi-charts showing distribution of Gram +Ve and –Ve out of pathogenic isolates only.

The amount of negative culture growth indicates that symptoms only based diagnosis for UTI detection is unreliable. *Escherichia coli* is the most UTI related pathogen, *Enterococcus faecalis* and *Acinetobacter baumannii* were among highly antibiotic resistant bacteria.

Table 1: Classification of detected Gram negative bacteria

Acinetobacter baumannii	*Enterobacter aerogenes*	*Enterobacter cloecae*	*Escherichia coli*	*Klebsiella oxytoca*	*Klebsiella pneumonia*	*Morganella morgonii*	*Proteus mirabilis*	*Pseudomonas aeruginosa*	*Serratia marcescens*	*Serratia rubidaea*
12.66 %	1.08 %	1.08 %	68.73 %	1.08 %	20.48 %	0.27 %	4.58 %	0.54 %	0.54 %	0.27 %

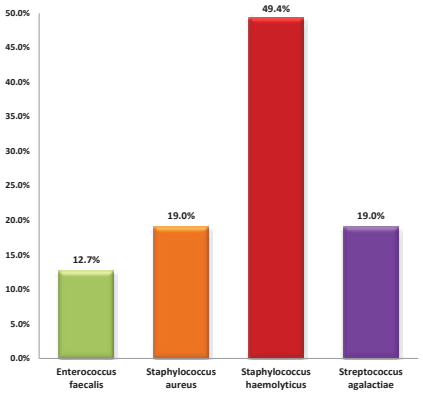

Figure 1: Chart showing classification of detected Gram positive bacteria

Table 2: Collective resistance of Gram positive and negative bacteria to antibiotics

Gram Positive Bacteria		Gram Negative Bacteria	
Antibiotics	**% Resistance**	**Antibiotics**	**% Resistance**
Ticarcillin	100.00	Ticarcillin	95.06
Ciprofloxacin	94.36	Piperacillin	94.94
Quinupristin/ Dalfopristin	92.25	Pefloxacin	94.63
Oxacillin	78.85	Minocycline	94.43
Fosfomycin	77.31	Colistin	93.93
Benzylpenicillin	76.22	Ampicillin	93.65
Ampicillin	75.83	Tigecycline	90.34
Tetracycline	75.51	Aztreona	86.96
Ceftriaxone	75.00	Meropenem	85.99
Cefotaxime	75.00	Amikacin	85.63
Gentamicin	71.80	Ampicillin/ Sulbactam	73.51
Erythromycin	68.40	Cefazolin	70.68
Fusidic acid	67.05	Amoxicillin/ Clavulanic Acid	66.24

Finally, since many of GNB and GPB isolates were resistant to several antibiotics, there might be a high possibility for multi drug resistant among local population in Erbil.

References:

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PBSC MOBILIZATION AND APHERESIS COLLECTION FOR AUTOLOGOUS TRANSPLANTATION: PRELIMINARY EXPERIENCE AT THE HIWA CANCER HOSPITAL, SULAYMANIYA, IRAQI KURDISTAN.

Dereen Mohammed[1], Dlir Ali[1], Michele Vacca [2], Francesco Ipsevich [2], Rebar N. Mohammed [1], Harem Kareem [1], Bhrzan Mohamed [1], Diana Noori [1], Salah Salih [1], Sarwar Rasul [1], Goran Abdurrahmam [1], Marco Possenti [2], Kosar Omer [1], Ignazio Majolino [2], Dosti Othman[1]
[1] Hiwa Cancer Hospital (HCH) Sulaimaniya Iraqi Kurdistan , [2]Istitute for University Cooperation (IUC) Italy Rome

INTRODUCTION

The Hiwa Cancer Hospital (HCH) in Sulaymaniya was recently identified as the site for the establishment of the first HSCT center in the Iraqi Kurdistan. A project of the IUC funded by the Italian Cooperation Development Agency was started in April ٢٠١٦, and soon a dedicated team started the PBSC mobilization and collection activity for autologous transplantation. Here we describe the initial experience and the results so far obtained

RESULTS

The apheresis devices were the Amicus (Fenwal) and the Comtec (Fresenius) cell separators. After collection and CD٣٤+ cell enumeration, the samples were cryopreserved in ١٠٪ DMSO and stored in a -٨٠°C freezer or in liquid nitrogen. Thawing was done in a ٣٧°C water bath, and cells were infused following high-dose therapy without any prior manipulation. We report the results in ١٧ patients, ١١ M and ٦ F, median age ٣٦ y (٢٨-٥٨) , with multiple myeloma (MM, N=٦), Hodgkin lymphoma (HL, N=٩) and non-Hodgkin lymphoma (NHL, N=٢). As mobilization regimen, all MM patients received GCSF alone at the dose of ١٠ µg/kg/day for ٥ days. The HL and NHL patients, who were already on salvage treatment, were collected after the same chemotherapy followed by GCSF ١٠ µg/kg/day. In HL patients the chemotherapy was BeGeV (Santoro A. et al, ٢٠١٦) in ٦, cyclophosphamide + GCSF in ٢, and IGeV in ١. The two NHL patients received cyclophosphamide + GCSF or R-DHAP + GCSF. PBSC collections were started at the time of rapid WBC rise and as soon as CD٣٤+ cell count increased over baseline (median ٣٠/mL (٨-٢٣٦). The apheresis collections were run through a peripheral vein or a femoral catheter by processing up to ٢.٥-٣ times patient's total blood volume. To plan the apheresis procedures a published algorithm (Pierelli L. et al, ٢٠٠٦) was regularly employed. Since in this first series of patients a single autograft was planned, the target for PBSC collection was set at ٥ x ١٠^٦/kg CD٣٤+ cells for all patients. With this technology, the collection target was reached in ١٥ out of ١٧ patients (٨٨٪). In those who reached the target, we collected as median ٦.٠٨ x ١٠^٦/kg -CD٣٤+ cells (٢.٤-٢٠.٨), with median ٢ apheretic runs (١-٤). Based on the pre and post-apheresis CD٣٤+ cell counts, the collection efficiency of the apheresis Amicus device was median ٨٩.٥٪ (٥٤-١٧٠) and of the Comtec median ٨٢٪ (٣٢-٩٥). In MM the apheretic collections were started on median day ٥ (٤-٦), while in lymphoma patients, due to chemotherapy, the day of apheresis start was ١٢ (٩-١٨). After cryopreservation and thawing, viability (٧-AAD, BD) was median ٨٧.٥٪ (٤٣-١٠٠). With these cell products, up to now we engrafted ٩ patients following high-dose chemotherapy (٥ MM autografted after MEL٢٠٠, ٢ HL and ٢ NHL autografted after BEAM).

CONCLUSION

Engraftment was prompt and stable in all with ANC ٠.٥ and ١.٠ x ١٠^٩/L on median day ١١ (١٠-١٢) and ١٢.٥ (١١-١٥), respectively, and with platelet count ٢٠ and ٥٠ x ١٠^٩/L on median day ١٤ (١١-١٧) and ١٧.٥ (١٣-٤٤), respectively. These results are similar to those obtained by most experienced centers in Europe and US, and confirm the fact that autologous transplantation may be implemented also in developing countries when appropriate technology and application of standard procedures are employed. With this experience our center is also developing allogeneic transplantation.

CONTACTS

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A retrospective study of high vaginal swab (HVS) for bacteriological and antibiogram among female patients attended to gynecology department/ Rizgary Teaching Hospital

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1 Laboratory Department, Rizgary Teaching Hospital, Ministry of Health- Erbil, Kurdistan.
2 Pharmacognosy Department, College of Pharmacy, Hawler Medical University- Erbil, Kurdistan.

* This poster is cited from accepted paper for publishing, with the same title, at the 1st scientific conference on women's health/Hawler Medical University/2018

RIZGARY HOSPITAL

Abstract: Bacterial vaginosis (BV) is one of a health problem for women.Vaginosis is the inflammation of vagina commonly encountered in clinical medicine. The vaginal ecosystem is balanced by a preponderance of protective microflora, but when there is an alteration or overgrowth of bacteria result in infection..

Objective: In this study we aimed to estimate the frequency of existences vaginal bacterial pathogen and antimicrobial susceptibility pattern.

Methods: This study was carried out in the laboratory-microbiology department at the Rizgary Teaching Hospital during January 2014 to December 2016, to determine the culture and antibiotic susceptibility pattern of both gram-positive and gram-negative isolates from 412 high vaginal swabs (HVS) specimen collected from women attended obstetrics and gynecology department / Rizgary Teaching Hospital who's complaining of vaginal discharge. Isolation and identification of the various bacteria based on the colony characteristics, gram staining and biochemical characteristics and the antimicrobial sensitivity test done by using Kirby Baur disk method then confirmed by Vitek 2/ compact system.

Results and Discussion: Comprehensive knowledge of the composition of the vaginal microbiota in BV patients as compared to healthy women is essential for understanding the etiology of BV and for the development of diagnostic tools, effective treatment and possibly prevention of this disease. A total of 412 HVS samples were analyzed, 42 (10.19%) cultures with pathogenic bacteria isolated. The most common vaginal infections were due to gram-negative bacteria (59.52%).

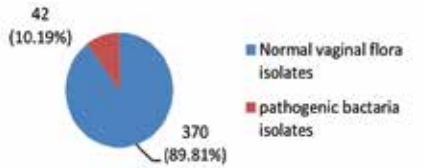

Figure 1: Frequency of bacterial growth from HVS culture.

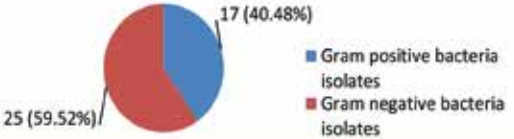

Figure 2: Frequency of pathogenic bacteria isolated from HVS culture.

Among the pathogenic bacterial isolates, *E. coli* was the predominant gram-negative bacteria causing vaginosis accounting for 68% which is followed by infections with *Klebsiella pneumonia* (24%).

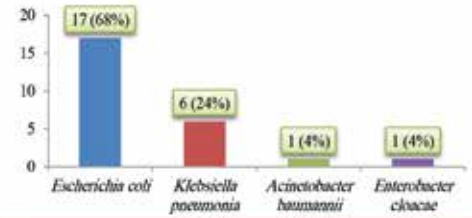

Figure 3: Frequency of gram negative bacteria isolated from HVS culture.

Regarding gram-positive bacteria which have been isolated from women with BV, *Streptococcus agalactiae* was predominant (47.06%).

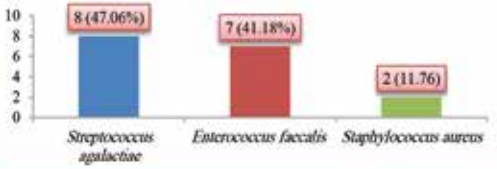

Figure 4: Frequency of gram positive bacteria isolated from HVS culture.

The determination of bacterial resistance to antimicrobials is an important part of the management of infections in patients, and this procedure should be carried prior to any meaningful antimicrobial therapy. Resistancy of the pathogenic bacteria varied depending on the type of the isolates (Table 1).

Table 1: Pattern of antimicrobial resistance among detected bacteria .

Gram Positive Bacteria		Gram Negative Bacteria	
Antibiotics	**% Resistance**	Antibiotics	% Resistance
CIP-Ciprofloxacin	100	AM-Ampicillin	92
E-Erythromycin	82.36	AMC-Amoxicillin/Clavulanic Acid	72
FA-Fusidic acid	88.24	TIC-Ticarcillin	100
FOS-Fosfomycin	88.24	MNO-Minocycline	92
GM-Gentamicin	88.24	PEF-Pefloxacin	92
MUP-Mupirocin	88.24	PIP-Piperacillin	92
MXF-Moxifloxacin	88.24		
OX1-Oxacillin	94.12		
RA-Rifampicin	88.24		
TEC-Teicoplanin	88.24		
TIC- Ticarcillin	100		

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Development of a chimerism analysis test using short tandem repeats and capillary electrophoresis to monitor success of engrafment in allogeneic stem cell transplanted patients

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Introduction:

Chimerism analysis is an important tool to assess the origin of hematopoietic cells after stem cell transplantation (SCT). Discrimination between donor- and recipient-derived hematopoiesis allows evaluation of engraftment.

Various methods have been used for monitoring chimerism including flouresnt institu hybridization (FISH) which is limited to sex-mismatched transplants whilst single nucleotide polymorphism (SNP) and insertions and deletions (Indels) analysis, despite their potential, have some limitations such as stringent PCR conditioning and false positives.

Short Tandem Repeats (STR) STRs are polymorphic 2–6 nucleotide tandem repeats distributed throughout the genome. Many commercial kits for chimerism analysis are available, but they are relatively expensive and not affordable in our hospital.

Therefore, there is a clinical need for a rapid, reliable, affordable and sensitive method to monitor engraftment in these patients.

Aims:

1. Develop a DNA chimerism analysis method based on a panel of STR and multichannel capillary electrophoresis.

2. Apply this approach to monitor success of engraftment or disease relapse in allogeneic stem cell transplanted patients in our centre.

3. Discover which STRs are the most informative in this population.

Materials and Methods:

Up to nine unlabelled STR systems were selected in previously published studies based on the degree of heterozygosity in the studied populations. They were SE33/ACTBP, D2S1360, D3S1744, D5S2500, D7S1517, D8S1132, D11S554, D12S391 and Amelogenin.

DNA samples extracted form peripheral blood were quality and quantitity controlled using QIAxpert system. Optimised single-plex conventional polymerase chain reactions (PCR) were performed (optimum reactions were PCR with minimum number of stutter peaks and with successful amplifications of expected alleles). The PCR products were subsequently loaded on capillary electrophoresis using QIAxcel DNA High Resolution kit, QIAxcel Advanced machine and QIAxcel Screen Gel software (v1.2).

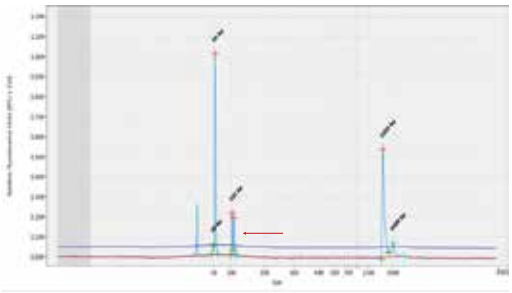
Results:

1. General qualities:

Template DNA from 2 patients were amplified to identify amplicons with 6 bp difference that differentiate male from female sex.

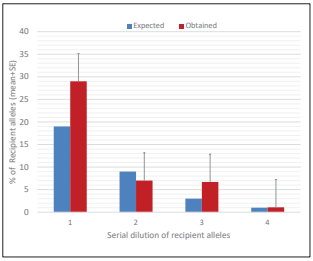
The expected allele size published for the used STRs in this study were readily obtained.

Figure 1. An example of determination of gender in a male patient with an X (102 bp) and a Y (108 bp) allele and the frequency ratio of 1:1 as measured by relative fluorescence (the arrow head).



2. Sensitivity

Figure 2. DNA samples from 2 cases, were selected and studied for 9 STRs. The variable alleles were selected as informative. Then these samples were serially diluted to mimic DNA chimerism invivo to get allele frequency of 50%, 25%, 10%, 5% - and 1% for homozygous allele and the respective 25%, 12.5%, 5%, 2.5%, 0.5% for heterozygous alleles. Each of these alleles was successfully detected down to 2.5% of heterozygous allele. However, dilution to 1 and 0.5% alleles were not detected.



3. Confirmation of DNA chimerism status for 3 allogeneic stem cell transplanted patients

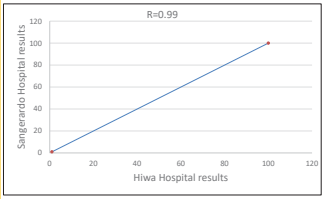


Figure 3. An example of confirmation DNA chimerism in a multicentre single blind study. The high concordance between Hiwa Hospital and Sangerardo Hospital (Italy) results.

Conclusions:

Taken together, we have successfully developed a sensitive and affordable DNA chimersim test using STRs and multichannel capillary electrophoresis. This allows us to monitor allogeneic stem cell transplanted patients for the success of engraftment and/or possibly predict disease relapse.

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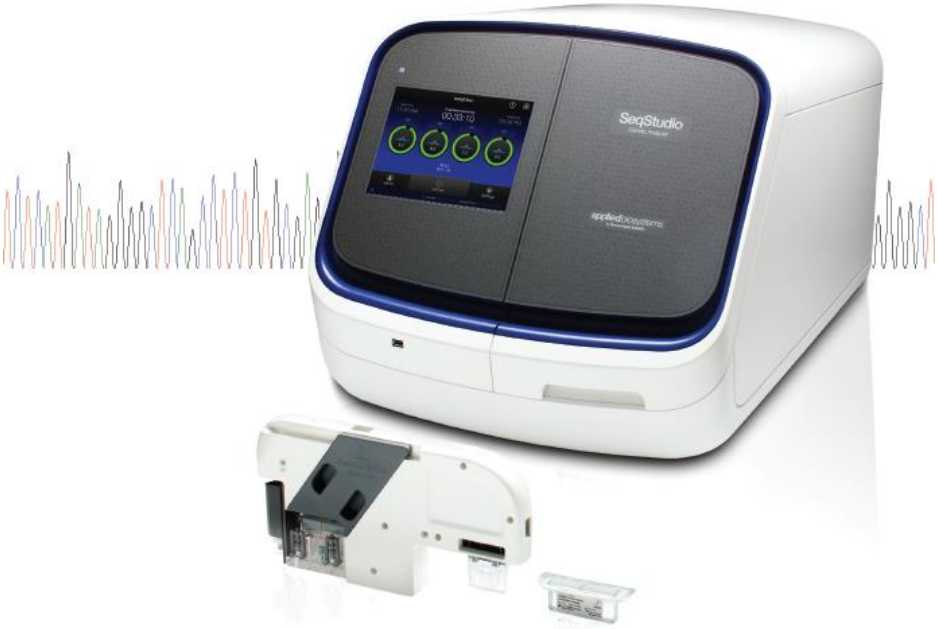

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