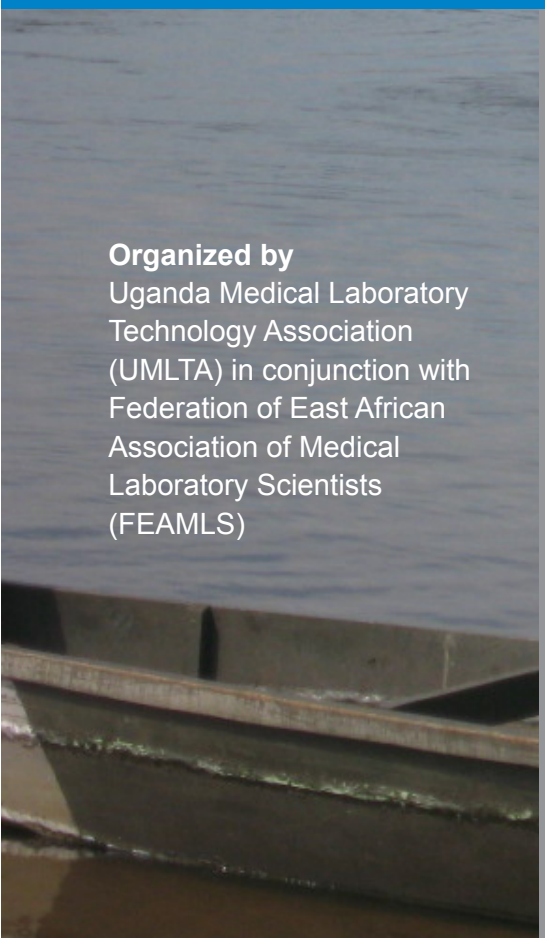
2009

Abstract Book/News Letter

THE 27TH UMLTA & 4TH FEAMLS SCIENTIFIC CONFERENCE



Organized by
Uganda Medical Laboratory Technology Association (UMLTA) in conjunction with Federation of East African Association of Medical Laboratory Scientists (FEAMLS)

THEME: "CHALLENGES OF HIV/AIDS, EMERGING AND RE-EMERGING DISEASES TO MEDICAL LABORATORY PRACTICE"

Date: 19th – 21st November 2009

Venue: White Horse Inn-Kabale District

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TABLE OF CONTENTS

CONGRATULATORY AND WELCOME NOTE BY THE MINISTER OF HEALTH iv
MESSAGE FROM THE PRESIDENT OF UMLTA v
MESSAGE FROM UMLTA SECRETARIAT vi
MESSAGE FROM CHAIR OF EDITORIAL BOARD vii
AMREF viii
FINANCIAL SUPPORT AND GIFTS x
THE PROGRAM xi
KEYNOTE ADDRESS BY DR. MOSES L JOLOBA xv
ABSTRACTS 1

1. The Uganda National Health Laboratories Policy: A Milestone for Improved Healthcare in Uganda 1
2. The Importance of Good Clinical Laboratory Practices Implementation For Medical Laboratories in Africa. 2
3. AMREF's contribution to health laboratory services delivery in Uganda 3
4. Quality assurance of HIV rapid testing 4
5. Laboratory and Clinical quality care in HIV/AIDS 5
6. Serum Lipid Profile of HIV/AIDS Patients on ART at ISS Clinic Mbarara Regional Referral Hospital 6
7. Rapid screening for MDR -TB using Line Probe Assay in smear-postive specimens in Uganda 7
8. Comparison of three LED-based fluorescence microscopy methods for TB detection in Uganda 8
9. Development of new tools for diagnosis of tuberculosis and MDR TB at Epicentre Mbarara 9
10. Introduction of a tuberculosis specimen referral system to improve detection of multi drug resistant tuberculosis in Uganda 10
11. Evaluation of Capilia (Tauns) for rapid identification of Mycobacterium tuberculosis complex from cultures, Kampala Uganda 11
12. Anti Tuberculosis drug resistance in Kampala-Uganda has not changed and shows no association with HIV infection. 12
13. Toxoplasmosis in HIV/AIDS patients at ISS CLINIC Mulago Hospital. 13
14. Approaches to implementation of external quality assurance in HIV Testing: A literature review 14
15. Piloting a National Laboratory External Quality Assessment Scheme for HIV Associated Opportunistic Infection in Uganda 15
16. Adherence to times three rule among Ugandans 16

17. Polymerase chain reaction (PCR) as applied in the Malaria sub microscopic diagnosis and genotyping of P.falciparum at Epicentre Mbarara research base. 17
18. Ongoing outbreak of typhoid fever with high rate of intestinal perforations, Kasese District, Uganda, 2008-2009 18
19. Prevalence of causative agents of Puerperal sepsis and their antibiogram in patients attending Itojo hospital 19
20. The Ssendi's Babies-(Case Report) 20
21. Feasibility of magnetic bead concentration prior to LED-based fluorescence microscopic detection of TB. 21
22. Validation Of The Makerere University Walter Reed Project (MUWRP) Established CD4 T-Cell Reference Intervals For Use In The Adult Population Of Rakai 22
23. Accuracy and handling of 20µl pipettes used by hospital laboratories for Haemoglobin measurement to diagnose anaemia in Uganda 23
24. Self directed on-site laboratory training: a model for effective capacity building in health care 24
25. A comparative study of Acid haematin and Oxyhaemoglobin visual comparative methods against Cyanmethaemoglobin used in haemoglobin estimation to diagnose anaemia 25
26. Quantitative reference ranges for fasting profiles and oral glucose tolerance test for healthy adults from metropolitanm region (Nairobi) of Kenya 26
27. Malaria prevalence among children aged ≤ 5 years attending acute care unit, Mulago National Referral Hospital. 27
28. The role of barber in HIV Prevention at Workplace 28
29. Quality Assurance for Malaria Laboratory Diagnostics a Baseline Assessment in the Midwest Districts of Kiboga, Hoima, Kibaale, Buliisa and Masindi 29
30. Challenges of building up a functional laboratory network for economic development in a poor resource country. The Rwanda experience 30
31. Glycerated haemoglobin in the monitoring of diabetic patients on treatment at the diabetic clinic of Mbarara Regional Referral Hospital. 31
32. Developing a quality manual for your laboratory 32
33. To determine the level of PPAR and CD36 gene expression in human monocytic celll lines 33
34. Haemostatic abnormalities in Hiv/Aids patients taking Highly Active Antiretroviral Treatment at JUSH ART clinic 34
35. Early infant Hiv diagnosis in a resource limited country is possible – Uganda's experience 35
36. Mananaging clinical laboratory services as a business enterprise 36
37. Medical Laboratory Practice in Uganda from inception to date-and the next 10years. 37
38. Uganda Medical Laboratory Technology Association (UMLTA) 1968-2008 38

39. Implementation of HIV/AIDS Serological Testing Quality Assurance and Quality Control through Partnerships. 39
40. Lipid profiles of HIV/AIDS patients and the effect of combination Antiretroviral Therapy in Jimma University specialized hospital 40
41. . HIV/AIDS prevalence among women attending antinatal care service at Jinka zonal hospital, South Omo zone, SNNRP, Ethiopia 41
42. The prevalence of syphilis among newly diagnosed Sero-positive HIV patients at TASO Mbarara 42

THE AWARD WINNERS AT 40'S YEAR CELEBRATION 45
UGANDAN MEDICAL LAB GAINS INTERNATIONAL RECOGNITION 45
DID YOU KNOW 47
THE YEAR 2008/09 FOR THE UMLTA 49
STATE OF THE ART LABORATORIES AND SERVICES AT MAKERERE COLLEGE OF HEALTH SCIENCES 52
CENTRAL EXECUTIVE COMMITTEE MEMBERS OF UMLTA 54
FIND (FOUNDATION FOR INNOVATIVE NEW DIAGNOSTICS) 55

Congratulatory and Welcome Note by the Minister of Health

The Ministry of Health would like to congratulate the Uganda Medical Laboratory Technology Association (UMLTA) for making 40 years! We are proud to have been associated with you for this period of time.

The laboratory plays a pivotal role in health care in Uganda as more than 70% of all medical decisions hinge on laboratory output. The UMLTA has been instrumental in spearheading the quality provision of services from Uganda's laboratories.

The UMLTA has successfully synergised with local as well as international colleagues and has broken the record of holding more yearly scientific meetings than any other medical profession in Uganda. These conferences make your profession the most informed and in touch with new technological developments enabling you to successfully meet the challenges of emerging and re-emerging diseases. I encourage you to continue working extra hard and making sacrifices for your profession. World over it is the professionals who make the profession - you have shown a good example.

As a government, we have observed your good efforts and put in place a conducive environment through the laboratory policy formulation. The ministry, together with concerned stakeholders, is designing the implementation strategy for this policy. We encourage you to fully participate in it so that it smoothens your efforts. The government has also strengthened the diagnostic capacity of specialized laboratories like the Uganda Virus Research Laboratory (UVRI) and Central Public Health Laboratories (CPHL) to screen not only common diseases but the new and emerging ones like swine flue. We feel this will assist you conquer the challenges posed by HIV/AIDS, emerging and re-emerging diseases. We shall continue to support your efforts.

We are grateful to all the organisations that have been supporting you and entreat them to continue as their support has a direct impact on improving our health sector. I need to mention here African Medical Foundation (AMREF) Uganda, Foundation for Innovative New Diagnostics (FIND), Hass Scientific Ltd/Sysmex Japan, Chemoquip Kenya Ltd and Becton Dinkinson Ltd Nairobi among others.

I am informed that this conference is widely attended and has drawn delegations from as far as Kenya, Tanzania, Rwanda, Zambia, Ethiopia and South Africa among others. We wish to welcome all of you to this conference more so the sister country delegations. Please take time off this conference and enjoy our country and the hospitality of our people.

Lastly we wish the UMLTA continued growth and congratulations once again!

FOR GOD AND MY COUNTRY

S. O. Mallinga

Hon. Dr. Stephen Mallinga (MP)
MINISTER OF HEALTH

Message from the President Of Umlta

It gives me great pleasure to welcome all of you to this joint ly organized conference. This is the 27th UMLTA and 4th FEAMLS Conference since inception of both organizations.

First and foremost I would like to thank all participants for having made it to this conference. We welcome our counterpart from out of Uganda who came not only to share with the beauty of science but to show solidarity in all fronts. As we mark 40 years we are privileged to be with you not only now but in the previous years and continue to request you to be on our side as we advance further in years and practice.

As we celebrate we need to recognize our living and fallen heroes who made the profession grow to greater heights through personal sacrifice and that of their families. We shall honour some of them at this meeting. This should give morale to some of us who are still young to get re-energised to offer similar or bigger sacrifice. A profession is made and grows because of its members.

This conference is being held in what is referred to as the Switzerland of Africa due to its geographical characteristics. This part of the world is unique for its terrain made of undulating hills. Terracing is a uniquely identifying feature in this highly agricultural community. Kabale (formerly Kigezi) is a land of the Bakiga who are known to be the most hardworking, friendly and straight forward people in Uganda. Take time off during the conference to mix with these people, see the geographical features and visit important places around Kabale town. These include Mgahinga National Park; Bwindi Gorilla Sanctually and Lake Bunyonyi one the deepest lake in the world. You could also cross into Rwanda and Democratic Republic of Congo which are a stone throw and visit these friendly neighbours. This will be able to refresh your brains after three days of brainstorming on scientific and professional issues.

We are extremely grateful to all partners who have made and continue to make our profession grow. The Ministry of Health has been very supportive in this endeavour. This conference would not have been possible without support from African Medical Foundation (AMREF)-Uganda, Foundation for Innovative New Diagnostics (FIND), Hass Scientific Ltd/Sysmex Japan, Chemoquip Kenya Ltd, Becton Dinkinson Ltd Nairobi, Mulago Paramedical Schools, Mulago National Referral and Teaching Hospital, Human Diagnostics Uganda Ltd, Ebenezer Clinical Laboratory Ltd, Kampala Paramedix Institute among others and you participants in your individual support capacities.

At 40 years we are still a 'youth'. This youthful energy should be able to propel us to greater heights!

Together we "***DISCOVER THE UNKNOWN***".

Simon Peter Rugera

PRESIDENT
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Message From Umlta Secretariat

Dear delegates,

I'm very delighted to welcome you to this 27th scientific conference of Uganda Medical Laboratory Technology Association. As you are well aware, UMLTA is currently the host of Federation of Associations of East African Medical Laboratory Scientists (FEALMS). I therefore welcome everybody coming from the East African Region and beyond.

As we commemorate the 40years of existence of UMLTA, we should look back and reflect on the good things that we did and also look at the areas that we could have done better. This knowledge should then help us in plotting our future direction.

The last 10years particularly have seen our profession grow in leaps and bounds. Thanks to the Ministry of Health and our development partners that have greatly supported our endeavours. The Research institutions and Universities have changed the face of Medical Laboratory Practice in this country, we honour you. We are grateful to the manufacturers of Laboratory equipment, reagents & supplies and their agents for the input they have made in the development of our profession.

However, as a profession we are now facing a challenge of a higher magnitude than ever before. In addition to HIV/AIDS and its associated opportunistic Infections, we have diseases of epidemic nature such as Meningitis, Cholera, Typhoid, Viral haemorrhagic Fevers, Swine and Avian influenza

Yet, when we look around us and within us, we still have untrained people providing medical Laboratory services especially in private sector ('Quacks'). We also have professionally trained people applying outdated knowledge and using 19th century methods and equipment ('professional quacks'). Thus we are the complainants, but also the guilty party.

We therefore need anew level of thinking; because as Albert Einstein observed, "The significant problems we face can not be solved at the same level of thinking we were when we created them".

I would like to salute those members of the profession who have committed their time and resources to providing quality Laboratory services especially in the private sector. I also want salute those of us who have consistently supported the association in it's pursuit of excellence in medical Laboratory practice.

We need your support now more than ever before, to take the profession to even greater heights.

Yet again, allow me to welcome you to this scientific conference and the commemoration of 40years of UMLTA.

'Karibuni Sana'. "DISCOVER THE UNKNOWN"

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Message from Chair of Editorial Board

Dear participants, Alumni and friends,

It is a great pleasure for me to extend a cordial invitation for all colleagues and delegates to participate in the 27th scientific conference of the Uganda Medical Laboratory Technology Association (UMLTA) in conjunction with the Federation of East African Association of Medical Laboratory Scientist (FEAMLS) which will be held at White Horse Inn – Kabale, Uganda from 19th to 21st November. The Theme for this conference is "Challenges of HIV/AIDS, Emerging and Re-Emerging Diseases to Medical Laboratory Practice."

The laboratory science relevant to diagnostic and general health care has been an important albeit challenging field in the face of HIV/AIDS, emerging and re-emerging diseases. We hope that this conference will offer a suitable avenue for candid debate of the challenges faced by our profession and thus contribute to a better understanding of how we can ensure more effective, efficient and sustainable service delivery built from research.

The organizers for this conference have already done a very good job. There will be a great scientific program, various social events and opportunities to meet with old and new colleagues from within the region. I also believe this conference will strengthen the supportive relationships among the relevant organizations through exchange of information and other services.

I would like to thank all those who submitted their abstracts and those who supported the conference in one way or another. Finally, I urge other partners to unite with us for the better health of our communities.

I look forward to seeing you in Kabale, Uganda from 19th November 2009 and your continued advice and participation in our future conferences.

On behalf of editorial board

Mumbowa Francis
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AMREF

Who we are……

AMREF (African Medical and Research Founadtion) is an international African organisation headquartered in Nairobi, Kenya.

AMREF's Vision: Better Health for Africa.

AMREF's Mission: To ensure that every African can enjoy the right to good health by helping to create vibrant networks of informed communities that work with empowered health care providers in strong health systems.

AMREF has over 50 years' experience in health development. Today, AMREF implements its projects through country programmes in Uganda, Kenya, Ethiopia, Tanzania, Southern Sudan and South Africa. Training and consulting support are provided to an additional 30 African countries.

Knowledge is a core product of AMREF's activities. AMREF implements projects to learn, and shares this evidence-based knowledge with others to advocate for changes in health policy and practice. Based on the belief that health is a basic human right, AMREF seeks to empower communities to take control of their health and to establish a vibrant and participatory health care system made up of communities, health workers and governments.

Our Strategic Focus……

AMREF's strategy seeks to strengthen health systems and to design and enhance interventions that improve people's access to health through their active participation. Informed by Africa's health crisis, AMREF's comparative advantage and five decades' experience of working with communities and health systems in the region, the AMREF strategy will be pursued through three interdependent programme themes:

Community Partnering for Better Health

Health Systems and Policy Research

Capacity Building

What we do……..

Working closely with African communities and governments, AMREF ensures that its health projects are relevant and sustainable. Therefore AMREF;

1. Creates health communities
2. Fights diseases
3. Trains health workers
4. Strengthens health systems
5. Advocacy and Research

AMREF in Uganda is……

- Supporting the MoH to strengthen health systems including health laboratory services delivery with funding from CDC
- Partnering with the Guardian newspaper and Barclays to transform people's lives in Katine in one of the poorest districts in Uganda
- Providing high-quality training courses and teaching materials for the next generation of primary health workers, nurses and laboratory staff.
- Promoting community-based care for orphans affected by HIV/AIDS in Luwero district.
- Vaccinating children and providing clean water and sanitation in IDP camps in northern Uganda.
- Preventing and managing HIV, TB, malaria and waterborne diseases in Soroti district by strengthening health care systems.
- Empowering young people in Kabale to demand their right to access health services
- Kawempe Community Health Development Project,

Laboratory Services Strengthening Programme (LSSP) implementation in Uganda

In 1995, AMREF started Laboratory technical services in Uganda and have continued to grow in capacity. Currently, AMREF is working with the MoH in implementing the Laboratory Services Strengthening Programme (LSSP) at Health Centre III and above in the Republic of Uganda. It is a five-years PEPFAR/CDC funded project that started in 2004 and runs up to 2010.

The objectives of LSSP are to: (i) Improve laboratory infrastructure (ii) Strengthen the skills, knowledge and attitudes of health workers (iii) Strengthen the National Laboratory Quality Control System (iv) Enhance stakeholder support for laboratory services

Achievements of LSSP since inception in contribution to improvement of health laboratory services delivery:

i. ***Standardized basic lab infrastructure design:*** Improved physical laboratory structures (rehabilitated 20 health unit laboratories & National TB Reference Laboratory (NTRL); provided essential/ basic lab equipment to over 150 health units)

ii. ***Strengthened the National Quality Control System (NQCS):*** Supported Central Public Health Laboratories (CPHL) to implement the NQCS (Database installation, Transportation, Support supervision, Reference text books, development of SOPs, Strengthen the capacity of DLFPs and Lab. Focal Persons of UPDF and Uganda Police medical Services] to effectively monitor health laboratory services)

iii. ***Improved human resources for health development:*** (TOT for 74 lab coordinators/ supervisors, over 250 cadres trained for professional courses; over 700 in-service cadres refresh trained [270 lab staff, 210 Doctors and Clinical Officers and 225 Counselors], improved the infrastructure and equipment at Medical Laboratory Training Schools (MLTSs)-[Lab & Office equipment, Electricity & Water harvesting facilities, Training materials & Human resource capacity]

iv. ***Advocated for appropriate policies and support for health laboratory services:*** Through networking with partners (UVRI, UNBS, NTRL, MLTSs, Technical support to development of National Health laboratory Policy 2009 trhough LATC, support to the Uganda Association of Medical Laboratory Technology).

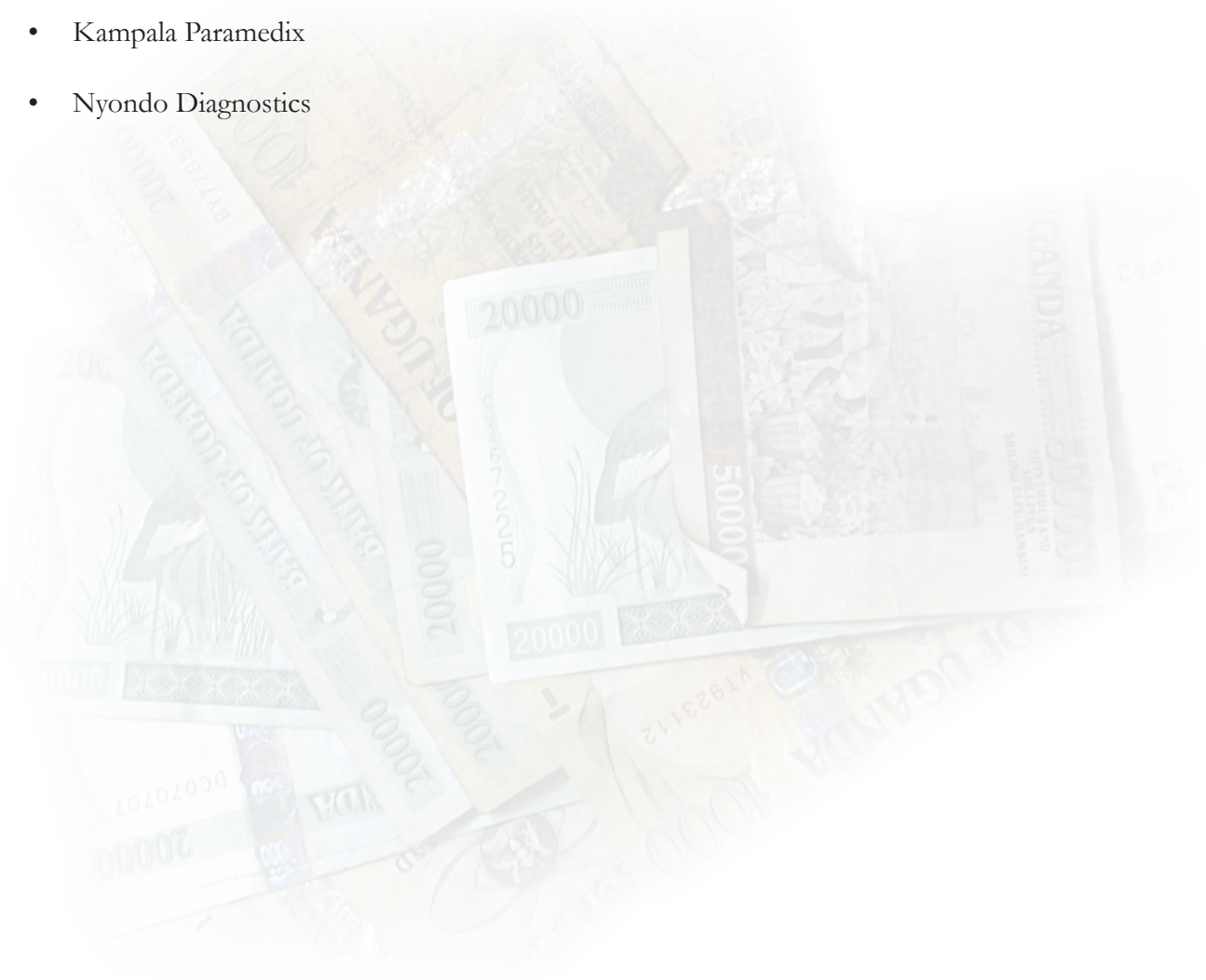
Way forward

Work with MoH and Partners to explore strategies for national and regional accreditation of health laboratory system.

FINANCIAL SUPPORT AND GIFTS

We gratefully acknowledge the generous financial support and gifts for this conference from;

- African Medical and Research Foundation (AMREF)-Uganda
- Hass Scientific Ltd/Sysmex Japan
- Chemoquip Ltd Nairobi Kenya
- Foundation for Innovative New Diagnostics (FIND)
- Becton Dickinson Ltd Nairobi
- Mulago Paramedical Schools
- Mulago National Referral and Teaching Hospital
- Ebenezer Clinical Laboratory Ltd,
- Kampala Paramedix
- Nyondo Diagnostics



CONFERENCE PROGRAM

Conference Chairman: Mr.tugume Stefano, Joint Clinical Research Centre, Kampala

CONFERENCE DAY ONE: 19TH NOVEMBER 2009		
Time	Activity	CHAIR
0730-0830	Registration of Conference Participants	Treasurer, Wewedru Izale
0830-0900	Opening remarks, ground rules	Conference Chair, Stefano Tugume
	SESSION ONE	Session Chair, Wilson Rwandembo Mugisha
0900-0910	Implementation of HIV/AIDS QA & QC through partnerships, **J.E.Tibiitha**	
0911-0920	Early infant HIV diagnosis in a resource limited country is possible, **Kiyaga Charles**	
0921-0930	The role of Barber in HIV prevention at workplace, **Erick.M. Atema**	
0931-0945	DISCUSSION OF THE ABOVE PAPERS	
0945-10.00	Guest of Honour arrives. **Hon.Dr.Stephen Malinga(MP),Minister of Health National Anthem** Inspection of exhibition	
10.00-1010	Welcome remarks, **Simon Peter Rugera, UMLTA President**	
10.11-1030	Keynote paper, "The challenges of HIV/AIDS, Emerging and Re-emerging diseases to Medical Laboratory Practice" **Dr.Moses.L.Joloba, Senior Lecturer/Head, Microbiology Dept' College of Health Sciences-Makerere University**	
10.30-1100	Speech by the Honorable Minister and official opening of the conference	
11.01-11.40	GROUP PHOTOS & PRESS CONFERENCE	
1140-12.00	HEALTH BREAK	

SESSION TWO		Session Chair: L.L.O.Kerchan
11.30 – 11.40	Development of Tools for diagnosis of Tuberculosis in immune-compromised patients & children in Epicenter Mbrarara Research Epicenter **Patrick Orikiriza**	
11.40 – 11.50	The challenges of building up	
11.50 – 12.00		
12.00 – 12.10	The Uganda National Health Laboratories Policy: A Milestone for Improved Healthcare in Uganda; **Dr.Kajumbula Henry**	
12.10 - 12.20	The Importance of Good Clinical Laboratory Practices Implementation for Medical Laboratories in Africa. **Dr Yap Boum**	
12.20 – 12.30	Evaluation of Dry Blood Spot (BDS) and Plasma as a suitable Specimen type for quality assurance of HIV rapid testing; **Dennis Olara**	
12.30 – 12.40	Rapid screening for MDR-TB using Line Probe Assay in smear-positive specimens in Uganda, **Nyesiga Barnaba**	
12.40 – 12.50	Comparison of three LED-based fluorescence microscopy methods for TB detection in Uganda, **Lukyamuzi George**	
12.50 - 01.00	Introduction of a Tuberculosis specimen referral system to improve detection of multi drug resistant tuberculosis in Uganda ,**Nelson Modi**	
01.00 – 13.30	DISCUSSION	
13.30 – 14.30	LUNCH BREAK	
SESSION THREE		CHAIR: Richard Apecu
14.30-14.40	Malaria prevalence among children aged ≤ 5 years attending ACU,mulago national referral Hospital. **Aliker Simon**	
14.40 – 14.50	Glycated haemoglobin in the monitoring of diabetic patients on treatment at the diabetic clinic of Mbarara Regional Referral Hospital **Oscar Senfuma**	
14.50 – 15.00	Developing a quality manual for your laboratory, **Paul Okwalinga**	
15.00 – 15.10	Haemostatic abnormalities in HIV/AIDS patients taking highly active antiretroviral treatment at Jush ART clinic. **Abdi Samuel**	
15.10 – 15.20	Self directed on-site laboratory training: a model for effective capacity building in health care; **Alex Ogwal**	
15.20 – 15.30	Piloting a National Laboratory External Quality Assessment Scheme for HIV Associated Opportunistic Infection in Uganda **William LALI**	
15.30-16.00	Anti tuberculosis drug resistance in kampala- uganda has not changed and shows no association with HIV infection by **Ezati Nicholas.**	
16.00-16.10	Serum Lipid Profile of HIV/AIDS patients on ART at ISS Clinic Mbarara Regional Referral Hospital; **Ndarubweine Joseph**	
16.10-16.30	HEALTH BREAK	
16.40 – 16.50	Validation Of The Makerere University Walter Reed Project (MUWRP) Established CD4 T-Cell Reference Intervals For Use in the adult population of Rakai; **Namuli Annet Christine**	
16.50-1720	DISCUSSION OF PRESNTED PAPERS	
17.20- 18.00	MEET&GREET A FRIEND,AND TOUR EXHIBITION TENTS	
17/01/2009		

SESSION FOUR	CONFERENCE DAY TWO: 20TH NOVEMBER, 2009	SESSION CHAIR: Alex Ogwal
08.30-08.40	Remarks by conference chair: **Stefano Tugume**	
08.40-0850	Quantitative reference ranges for fasting profiles and oral glucose tolerance test for healthy adults from metropolitanm region (Nairobi) of Kenya By **Stanleykinge Waithaka**	
08.50-09.00	Toxoplasmosis in HIV/AIDS patients at ISS CLINIC Mulago Hospital. **Izale Charles**	
09.00 – 09.10	Accuracy and handling of 20µl pipettes used by hospital laboratories for Haemoglobin measurement to diagnose anaemia in Uganda; **Mashate Silver**	
09.10 – 09. 20	The Ssendi's Babies Case Report; **Dr. Ssendi-Bwogi**	
09.20-0930	Prevalence of Causative agents of puerperal sepsis and their antibiogram in patients attending Itojo Hospital; **Mavis Naturinda**	
09.30-09.40	Challenges of building up a functional laboratory network for economic development in a poor resource country, the Rwanda experience" : **J.B.GATABAZI,**	
09.40-09.50	Managing clinical laboratory services as a business enterprise; **Kiyimba Stephen**	
09.50-10.00	Medical laboratory practice in Uganda from inception to date-and the next 10years. **Patrick ogwok**	
10.00-10.10	The Sysmex hematological range of equipment; **Ronald Shumba**	
10.10 – 10.40	DISCUSSION OF PRESENTED PAPERS	
10.40 – 11.00	HEALTH BREAK	
	SESSION FIVE	CHAIR: Dr.Sendi Bwogi
10.50 – 11.00	Adherence to times three rule among Ugandans. **Muwanguzi Enoch**	
11.00 – 11.10	Quality Assurance for Malaria Laboratory Diagnostics-a baseline Assessment in the Midwest Districts of Kiboga, Hoima, Kibaale, Buliisa and Masindi; **Lali William**	
11.20 – 11.30	Ongoing outbreak of typhoid fever with high rate of intestinal perforations, Kasese District, Uganda-- 2008-2009; **Atek Kagirita**	
11. 30 – 11.40	Polymerase chain reaction (PCR) as applied in the Malaria sub microscopic diagnosis and genotyping of P.falciparum at Epicentre Mbarara research base. **Dan NYEHANGANE**	
11.40 – 11.50	The prevalence of syphilis among newly diagnosed Sero-positive HIV patients at TASO Mbarara; **Kyokushaba Judith**	
11.50 – 12.00	Approaches to implementation of HIV quality assurance: A literature review; **Mary Dutki**	CHAIR Dr. Kajumbula Henry
12.00-12.10	A comparative study of Acid haematin and Oxyhaemoglobin Visual comparative methods against Cyanmethaemoglobin used in haemoglobin estimation; **Justine Bukirwa**	
12.10- 12.20	Chemoquip Ltd; **Njama**	
12.20- 12.30	Feasibility of magnetic bead concentration prior to LED-based fluorescence microscopic detection of TB; **Ademon Patrick**	
12.30- 1.00	To determine the level of PPAR-γ and CD36 gene expression in human monocytic cell; **Samuel Ongwae**	
	DISCUSSIONS	
1.00 – 02.00	LUNCH	
	ANNUAL GENERAL MEETING – MEMBERS ONLY	

2.00 - 5.00	Agenda 1. Prayer 2. Communication from the chair 3. Previous minutes and matters arising 4. Constitutional review 5. Treasurer's report/2009/2010 budget 6. Fund raising for office space/Land 7. Election of regional representatives 8. AOB	Mr. Rugera Simon Peter-President UMLTA
2.00 5.00 p.m	Organized tour for foreign participants ONLY?	
5.00 – 5.30 p.m	HEALTH BREAK (EVENING TEA	

KEYNOTE ADDRESS BY DR. MOSES L JOLOBA

Senior Lecturer and Head of Department Microbiology
College of Health Sciences, Makerere University-Kampala.

ABSTRACTS

1. The Uganda National Health Laboratories Policy: A Milestone for Improved Healthcare in Uganda

Authors: *Kajumbula Henry[1], Guma Gaspard[1], Zoe Nakuya[2], Amone Jackson[3] and Opio Alex[3]*

[1]Central Public Health Laboratories, Uganda Ministry of Health. [2]Foundation for Innovative New Diagnostics (FIND). [3]Ministry of Health Headquarters

ABSTRACT

Laboratory services are critical to patient management, disease control and response to epidemics. However, most countries in Africa lack clear policies to guide adequate delivery of laboratory services. As such, the 58th session of the WHO regional; Committee for Africa held in Younde 2008 resolved that all member countries should develop comprehensive national policies for laboratory service delivery. In Uganda, attempts to develop a National policy for laboratory services started more than 10 years ago. These finally culminated in the launching of the policy in September 2009.

Process of policy development:

To develop the policy, the Ministry of Health tasked the National Health Laboratories Technical Committee to work with development partners notably, CDC-Uganda, [2]Foundation for Innovative New Diagnostics (FIND) and African Medical and Research Foundation (AMREF). A review of existing documents including; The Uganda National Health Policy, The HSSP II, The National Health Laboratory Survey Report of 2005 and various relevant guidelines was performed. A number of stakeholder meetings were also held as part of the situation analysis. It was then decided that the policy should designed to support delivery of the Uganda Minimum Health Care Package as articulated in the National Health Policy. Initial drafts were discussed through a series of stakeholder meetings attended by laboratory experts, development partners, clinicians, private practitioners and Ministry of Health Officials among others.

Key contents of the Policy:

The policy elaborates on 13 key strategic objectives and outlines a number of strategies to achieve each of the objectives. The 13 areas covered include:

1. Organization and management of laboratory services
2. Delivery of the laboratory services
3. Laboratory facilities and safety
4. Laboratory equipment and supplies
5. Human resources for laboratory services
6. Laboratory Quality management systems;
7. Laboratory Information systems;
8. Research and development to improve laboratory services;
9. Community involvement in laboratory services
10. Partnerships to develop laboratory services
11. Regulatory and legal framework for laboratory services
12. Monitoring and evaluation of implementation of the policy
13. Financing and accountability for laboratory services

Conclusion:

The new National Health Laboratories Policy for Uganda is a document that has been developed following wide consultations and with significant contribution from stakeholders. It focuses on issues that shall ensure effective delivery of laboratory services in the country. A strategic plan for its implementation is already under development. Implementation shall optimize the utilization of Uganda's limited resources in the adequate delivery of laboratory services, resulting in improved healthcare delivery.

2. The Importance of Good Clinical Laboratory Practices Implementation For Medical Laboratories in Africa.

Author: *Yap Boum II*[1,2]

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ABSTRACT

The number of clinical studies conducted in Africa has considerably increased these last years for burden diseases such as Tuberculosis, Malaria and HIV/AIDS. Our capacity to perform research and drug development studies must be improved to a level comparable to the developed world.

For some years, it has been internationally recognized that clinical laboratories processing specimens from clinical trials require an appropriate set of standards to guide good practices. With that aim in mind, the Good Clinical Laboratory Practice Guidelines were drafted and published in 2003 by a working party of the Clinical Committee of the British Association of Research Quality Assurance (BARQA). The expectation is that compliance with the GCLP standards will allow research and development laboratories to maintain data integrity and to provide data that is repeatable, reliable, auditable and that can be easily reconstructed in a research setting.

In April 2006, the Special Program for Research and Training in Tropical Diseases (TDR), sponsored by UNDP, UNICEF, the World Bank and WHO, convened a meeting of organizations engaged in clinical trials in disease endemic countries to discuss the applicability of these guidelines to their work. Invited organizations included Epicentre, Drugs for Neglected Diseases initiative (DNDi), the Foundation for Innovative New Diagnostics (FIND), and the Kenya Medical Research Institute (KEMRI). It was agreed that GCLP would be a valuable tool for improving and assuring quality laboratory practice in clinical trials in the tropical settings in which they work.

South Africa is perhaps unique in this regard on the African continent in that it has a newly formed national body conducting medical testing laboratory accreditation called the South African National Accreditation Scheme (SANAS; n.d.). That needs to change!

3. AMREF's contribution to health laboratory services delivery in Uganda

Author: *Susan Wandera Kayizii*[1], *Charles Munafu*[1], *Guma Gaspard*[2], *Dr. Rose Mukisa*[1], *Mashate Silver*[1], *Mbaziira Paul*[1], *Ebitu Emmanuel*[1].

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ABSTRACT

Laboratory Services Strengthening Programme (LSSP) implementation in Uganda

In 1995, AMREF started Laboratory technical services in Uganda and have continued to grow in capacity. Currently, AMREF is working with the MoH in implementing the Laboratory Services Strengthening Programme (LSSP) at Health Centre III and above in the Republic of Uganda. It is a five-years PEPFAR/CDC funded project that started in 2004 and runs up to 2010.

Objectives: (i) Improve laboratory infrastructure (ii) Strengthen the skills, knowledge and attitudes of health workers (iii) Strengthen the National Laboratory Quality Control System (iv) Enhance stakeholder support for laboratory services

Achievements since inception in contribution to improvement of health laboratory services delivery:

i. ***Standardized basic lab infrastructure design:*** Improved physical laboratory structures (rehabilitated 20 health unit laboratories & National TB Reference Laboratory (NTRL); provided essential/ basic lab equipment to over 150 health units)

ii. ***Strengthened the National Quality Control System (NQCS):*** Supported Central Public Health Laboratories (CPHL) to implement the NQCS (Database installation, Transportation, Support supervision, Reference text books, development of SOPs, Strengthen the capacity of DLFPs and Lab. Focal Persons of UPDF and Uganda Police medical Services] to effectively monitor health laboratory services)

iii. ***Improved human resources for health development:*** (TOT for 74 lab coordinators/ supervisors, over 250 cadres trained for professional courses; over 700 in-service cadres refresh trained [270 lab staff, 210 Doctors and Clinical Officers and 225 Counselors], improved the infrastructure and equipment at Medical Laboratory Training Schools (MLTSs)-[Lab & Office equipment, Electricity & Water harvesting facilities, Training materials & Human resource capacity]

iv. Advocated for appropriate policies and support for health laboratory services: Through networking with partners (UVRI, UNBS, NTRL, MLTSs, Technical support to development of National Health laboratory Policy 2009 trhough LATC, support to the Uganda Association of Medical Laboratory Technology).

Way forward

Work with MoH and Partners explore strategies for national and regional accreditation of health laboratory system.

4. Quality assurance of HIV rapid testing

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ABSTRACT

Background:

With the massive scale-up of HIV rapid testing in order to provide entry point for HIV/AIDS prevention, care and support services, broad range of testing sites and personnel of varying level of training and experiences have been made available. The need to provide external quality assurance and control has become more critical to asses the competency of the personnel as well as to allow comparison of performance and results among different testing sites. The preferred specimen type for QA/C in facility based testing centers has been plasma, however, for home based HIV counseling and Testing (HBHCT), dry blood spot (DBS) is the preferred specimen type. A full access program project was initiated in Kumi District that offers home-based HCT to every household where HIV testing is conducted in the home on finger-stick blood using a sequential rapid testing algorithm. For quality assurance, dried blood spots on all HIV rapid test positives are collected on SS 903 paper, dried and stored in ziplock bags with desiccant and shipped to Entebbe for testing by EIA. Vaccutainer whole bloods were also collected for CD4 count measurement, were plasma aliquots were processed and stored. Our objective was to ascertain whether the DBS used for quality assurance and control would give comparable results with plasma samples.

Methods:

Two sample types, Dry Blood Spot (DBS), and plasma were evaluated against the field sero positive rapid test by EIA in parallel using Vironostika HIV Uni-form II plus O ; bioMerieux, Boseind 15, 5281 RM Boxtel, The Netherlands and Murex HIV-1.2.O; Murex Biotech Limited, Central Road, Temple Hill, Dartford DAI 5LR UK. The two EIAs were run according to the manufacturer's instructions for each sample types. From each sample types concordant negative (SOD<1) and positive (SOD>5) results were reported as negative and positive respectively. While discordance results (SOD<1 and SOD>5) and those that are within the boarder line (SOD>1<5) are repeated using the same algorithm, and consistent discordant results are reported as indeterminate.

Results:

Of the 326 reported HIV rapid test positive, Plasma EIA identified 312 (96.3%) as positive, while 12(3.6%) were identified as negative. DBS EIA identified 184 (56%) as positive while 99(31%) as negative and 43(13%) were reported as indeterminate.

Conclusions:

Plasma is the best sample type for Quality assurance and control in HIV rapid testing, even in the Home based setting with over 96% comparison with the rapid test. The 12 negative samples were concordant negative in both Plasma and DBS EIA., which may most likely be actual negatives. There were a lot of indeterminate results reported with DBS (13%) as opposed to none in the plasma samples. The processing of DBS in a home-based settings may be the contributing factor for it performance. These finding shows that the current HIV rapid test algorithms is working well, and plasma samples should be the preferred choice in quality control for both facility and home based settings.

5. Laboratory and Clinical quality care in HIV/AIDS

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ABSTRACT

The quality of a product or service refers to the degree to which the product or service meets the customer's expectations. Quality has no specific meaning unless related to a specific function and/or object. Quality is a perceptual, conditional and somewhat subjective attribute.

Quality in laboratory may be defined as accurate, timely, and complete reports. Achieving quality requires substantial investment in the basic infrastructure and human resource i.e. people who undertake laboratory procedures. Quality assurance and improvement works best when it is woven into the systems of laboratory procedures with well informed, trained, and knowledgeable staffs.

Quality management system is the overall organizational structure, resources, processes and procedures needed to implement quality management in clinical and laboratory procedures. It encompasses quality assurance and quality control.

Quality assurance refers to planned and systematic production processes that provide confidence in products/services suitability for it's intend purpose. It is a set of activities intended to ensure that products (goods and services) satisfy customer requirements in a systematic and reliable fashion.

Quality control is an essential part of every laboratory's daily operations. It is often thought to be applicable to only testing procedures. However the programme of quality assurance should be in place to ensure quality throughout the total testing process, from ordering the test to entering results on patient's chart.

The Paper explains the purpose of quality laboratory services, concepts of quality assurance and control, areas in the laboratory where quality should be emphasized, and how quality should be improved in the laboratory. This ensures delivery of accurate and customer trusted results.

6. Serum Lipid Profile of HIV/AIDS Patients on ART at ISS Clinic Mbarara Regional Referral Hospital

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ABSTRACT

Introduction

The incidence and prevalence of HIV has been reported to be on the increase in developing countries like Uganda. First and second line regimens for managing the disease in the country are the use of HAART. However, numerous studies outside the country have revealed the adverse effects of HAART on lipid profile, but little or no such data is available in the country, hence the need for the current study.

Aim of the study

The aim of the study was to investigate the serum lipid profile of HIV/AIDS individuals on ART and establish those at risk of Coronary Heart Disease(CHD)

General objective

To study serum lipid profile in HIV/AIDS patients on ART at ISS clinic, Mbarara Regional Referral Hospital.

Specific objectives

To determine serum total cholesterol, HDL-C, LDL-C and TG levels of, HIV positive patients on ART, HIV positive patients not on ART, HIV negative individuals (controls).To compare these values in the two groups and with HIV negative controls and identify those at risk of CHD.

Methodology

In this study TC, TG, and HDLC were determined using standard enzymatic methods; LDL-C, LDL: HDL and TC: HDL ratios were obtained by calculations. Analysis was done using computer statistical packages.

Results

The current study found out significant increases ($P< 0.05$) in TC, LDL –C, LDL: HDL and TC: HDL ratios

Conclusion

The current study showed significant increases ($P<0.05$) in some lipid profile (TC, LDL-C, LDL: HDL ratio and TC: HDL ratio) of HIV-positive patients 'on ART" when compared with control group. Since lipid profile levels have been shown to increase in HIV – positives "on ART" it is recommended that such patients be given a lipid lowering drug in addition to the "ART" regimen so that the risk of CVD would be reduced since the patients are going to be on ART for a long period of time.

7. Rapid screening for MDR-TB using Line Probe Assay in smear-positive specimens in Uganda

Authors: *Nyesiga B [1], Mukkada S [1], Lukyamuzi G [1], Ademun JP[1], Bwanga F [2,3], Albert H [1], Joloba M [2,3], O'Brien R[4].*

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ABSTRACT

The emergence and spread of multi-drug resistant TB (MDR-TB), defined as infection with MTB resistant to at least isoniazid and rifampicin, is one of the most formidable obstacles in TB control. The conventional drug susceptibility testing (DST) is a slow process that takes at least 2-4 months, during which time a patient may be inappropriately treated. The resultant delay may adversely affect treatment outcome and contribute to the transmission of drug resistant TB. Implementation of rapid methods for the diagnosis of drug resistant TB is critical. Molecular line probe assays (LPAs) for rapid MDR-TB screening were approved by the World Health Organisation in 2008 for use in low and middle income settings. LPA testing can be performed directly from smear-positive sputum, giving results in 1-2 days.

We present results of a local validation study of LPA (Genotype MTBDRplus, Hain Lifescience) on 118 smear-positive sputum specimens from re-treatment patients in Kampala. Overall agreement was 93% with MGIT DST results. Rifampicin resistance was a good predictor of MDR-TB with 97% of rifampicin resistant strains being MDR-TB. Implementation of rapid MDR-TB screening using molecular technology is feasible in Uganda and can offer rapid turnaround time of results.

8. Comparison of three LED-based fluorescence microscopy methods for TB detection in Uganda

Author: *Lukyamuzi G [1], Ademun JP[1], Mukkada S[1], Nyesiga B [1], Albert H [1], Manabe Y [2], , Joloba M [3], Perkins M [4].*

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ABSTRACT

Sputum smear microscopy using Ziehl-Neelsen (ZN) staining is the mainstay of TB diagnosis in most high burden countries, including Uganda. Although rapid and inexpensive, it has low sensitivity in programmatic settings, particularly in HIV co-infected patients. Replacement of light microscopy (ZN) with fluorescence microscopy (FM) would be an immediate option for improving TB case detection in high-burden settings.

Several systems utilising ultra-bright LEDs to enable inexpensive FM have been recently developed. We compared the performance of three LED-based systems iLED Primostar (Zeiss); Lumin (LW Scientific Inc); AFTER Fluorescence LED module (Fraen Corporation) for detection of acid- fast bacilli in TB suspects presenting at Mulago Hospital, Kampala. Fraen uses transmitted light, the other two systems use reflected light. In phase 1 of the study, we compared performance of the three systems and ZN by blindly reading smears prepared using 242 sputum specimens, submitted for routine FM microscopy, in a research laboratory. Reading of smears by each LED method and ZN was done using grading charts and in a blinded fashion. Sensitivity and specificity of TB detection of each LED-based system and routine FM was compared with direct ZN and culture (MGIT and LJ) and correlation of iLED, Fraen and Lumin performance was calculated.

Phase 2 of the study will compare operational performance in TB suspects presenting at the Infectious Disease Institute at Mulago Hospital. An end-user appraisal and assessment of examination time of the three LED methods will also be reported.

9. Development of new tools for diagnosis of tuberculosis and MDR TB at Epicentre Mbarara

Authors: *Patrick Orikiriza[1], Yap Boum II[1], Pierre De Beaudrap[1], Anne-Laure[2], Maryline Bonnet[2]*

Epicentre Mbarara Research Base[1], Epicentre Paris[2]

ABSTRACT

Early diagnosis of tuberculosis in clinical specimens is key in the treatment and control of tuberculosis worldwide. The occurrence of HIV has altered the clinical, microbiology and pathology of tuberculosis leading to difficulty in diagnosis of the disease.

The current methods of sputum collection present challenges in immune compromised persons and children because of their inability to produce a good quality specimen and the many risks cost and difficulty associated with the alternative methods of sputum collection. Because of this, many clinicians find it hard to treat these patients and therefore rely on clinical features and x-ray results with massive misdiagnosis up to 52 %(Tytle et al 1984, Gordon et al 1989, Mello et al 1996, Davies PD et al 2008).

At Epicentre Mbarara Research Base, we are evaluating some simple diagnostic tools that will be instrumental in isolating tuberculosis in patients unable to produce a good quality specimen such as the immune compromised patients and vulnerable children.

One such tool is the string test that is based on a gelatin capsule containing a coiled nylon string designed to pass through the stomach. This method has been successful against *Helicobacter pylori* and could be a suitable replacement for the sputum induction method.

The colorimetric methods rely on the detection of live bacteria through enzymatic activity that can be read macroscopically without need for sophiscated equipments. These would be suitable in remote areas where the infection of the disease is spreading very fast because of poverty related factors.

These techniques will all be tested in all types of patients to assess their feasibility, sensitivity and specificity before they can be adapted for routine use.

10. Introduction of a tuberculosis specimen referral system to improve detection of multi drug resistant tuberculosis in Uganda

Authors: *Freddie Bwanga[1], Nelson Modi[1], Nicholas Ezati[1], Henry Byabajungu[1], Fredrick Kangave[1], Lilian Bulage[1], Deus Lukoye[2], Diana Nadunga, Moses Joloba[1]*

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ABSTRACT

Background

The burden of multidrug resistant tuberculosis (MDR-TB) *defined as TB resistance to at least isoniazid and rifampicin* is increasing worldwide. In Uganda MDR-TB is estimated to be 15% among the re-treatment - and 1.5% among the new TB patients. It is very crucial to triage patients with active TB, particularly the retreatment cases, into MDR and non-MDR categories so as to institute the most optimal management. However, this requires *in-vitro* drug susceptibility testing (DST) in complex TB laboratories. The National TB Reference Laboratory (NTRL), Kampala Uganda is the only government-owned facility with capacity to perform TB culture and DST.

Methods

In 2008, the Uganda National TB and Leprosy Program (NTLP) through the NTRL introduced the Tuberculosis Specimen Referral System (TSRS). Under the TSRS, health facilities and Post offices are initially mapped using a satellite-based Geographical Information System (GIS). Ziehl-Neelsen smear positive sputum from retreatment TB patients at the health facilities is collected, packaged and shipped to the NTRL through the Post office network. At the NTRL, TB culture and DST is performed with the Lowenstein-Jensen medium and the Mycobacterium Growth Indicator Tube (MGIT 960). Culture and DST results are sent back to the source health facility through the Post office.

Results

From September 2008 to May 2009, the referral system was introduced in 4 TB zones – Kampala, Eastern, North-Eastern and South Western. Thirty-four districts, 107 health facilities and 23 post offices are now participating in the sample referral. By Mid July 2009, a total of 617 sputum samples were received at the NTRL from the TB zones: Kampala 444 (72%), Eastern 63 (10%), South Western 47 (8%), North-Eastern 42 (7%) and other zones 21(3%). Of the 617 samples, culture positives were 278, culture negatives 176 and contaminated results 15 samples. Pending culture results were 148. Drug susceptibility results were ready for 205 (74%) of the 278 culture positive samples. Of the 205 samples, MDR-TB was detected in 38 isolates (18.5%) and non-MDR TB in 167 (81.5%). All the MDR-TB results, 92% of the non-MDR results, and 94% of the culture negative results had been reported, and sent back to source health facilities.

Conclusion

We have successfully introduced a TB Specimen Referral System and demonstrated a successful model of the Public-Private partnership in the diagnosis of MDR-TB in Uganda.

Recommendation

We recommend expansion of the referral system in the rest of the TB zones and initiation of MDR-TB treatment in Uganda.

Acknowledgement

We thank CDC Uganda for funding the activity, Posta Uganda for the shipping services, health facility staff for the dedicated collection and packaging of samples and the NTRL staff for the TB culture and DST work.

11. Evaluation of Capilia (Tauns) for rapid identification of Mycobacterium tuberculosis complex from cultures, Kampala Uganda

Authors: *C Muchwa[2,3], J Akol[2,3], F Mumbowa[5], P Orikiriza[2,3], K Morgan[2,3], K Eisenach[4] , A Etwom[2,3], P Mugyenyi[2], R Mugerwa[3] M Joloba[1,3]*

[1]Department of Medical Microbiology, Makerere University Medical School, Kampala, Uganda; [2]Joint Clinical Research Centre, Kampala, Uganda; [3]Uganda-CASE Research Collaboration, Kampala, Uganda; [4]University of Arkansas for Medical Sciences and Central Arkansas Veterans Healthcare System, Little Rock, USA;. [5]Infectious Diseases Institute (IDI), Kampala, Uganda;

ABSTRACT

Introduction

The Capilia TB assay is a simple immunochromatographic assay which uses anti-MPB64 monoclonal antibodies to discriminate MTB from non-tuberculosis mycobacteria. Evaluation of Capilia to determine its costs, performance and turn around time (TAT) was done using PCR IS6110 assay (PCR) as a gold standard.

Methods

Respiratory and blood samples specimens were digested and decontaminated using 1.5% NAOH/NALC, concentrated by centrifugation and inoculated into BACTEC MGIT 960 culture tubes for incubation. Blood was aseptically inoculated and incubated in the BACTEC 9120 instrument. All BACTEC positive cultures were screened for acid fast bacilli by the Ziehl-Neelsen method before testing for MTB. Blood cultures were then inoculated on 7H10 agar and incubated for MTB isolation. The Capilia test was performed according to the manufacturer's instructions while PCR was done according to laboratory protocol. The test included 155 respiratory and 70 blood samples were tested.

Results

PCR and Capilia for MGIT 960 yielded sensitivity and specificity of 97.4% and 98.7% respectively. While for blood cultures sensitivity and specificity of Capilia was 100% and 27.4% respectively.

When Capilia was compared to PCR results from 7H10 isolates its specificity improved to 94.4%. The low specificity may be due to false negative PCR results caused by PCR inhibitors in blood cultures. The cost for Capilia and batched PCR were $5 and $4.67 respectively. The time to reporting of results for Capilia and PCR (time when test was done) was 20 minutes and 8 hours respectively. Performance of Capilia and PCR on both MGIT 960 contaminated and pure samples was comparable.

Conclusion

For MGIT 960 samples, performance of Capilia was comparable to PCR. Capilia performed better than PCR for direct blood culture testing. PCR requires an additional isolation step if it is to be used for identification of MTB from blood culture samples. Additionally, Capilia is faster than PCR and is potentially cheaper for real time testing.

12. Anti Tuberculosis drug resistance in Kampala-Uganda has not changed and shows no association with HIV infection.

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ABSTRACT

Background

There is growing concern about emergence of Multi drug resistant (MDR) and extensively drug resistant (XDR) tuberculosis particularly in Sub-Saharan Africa in the context of high HIV infection rates. Representative data from countries like Uganda is scarce. In this study a drug resistance survey for Kampala city was done, where MDR was 1.4% and 12.7% among new and previously treated (PT) patients respectively 12 years ago.

Objective

To estimate the prevalence of TB drug resistance and its association with HIV infection among new and PT TB patients in Kampala.

Methods

Between 18-08 and 19-12-2008 a cross sectional survey was done. Sputum smear positive patients were enrolled. Two sputum specimens and a blood sample were collected from consecutively identified patients in health centers reporting to National Tuberculosis/ Leprosy Programme (NTLP). Mycobacterial culture, drug susceptibility testing and HIV testing were carried out.

Results

Of 557 sputum smear positive TB patients, complete drug susceptibility data was obtained for 514 (92 %) including 497 new and 57 PT cases. Among new cases any resistance was 63 (13.8% 95% CI 10.8-17.3), 5 (1.1% 0.4-2.5%) had MDR. Among PT patients the prevalence of any resistance and MDR was 18(31.6% CI 20.6-45.2) and 7 (12.3% CI 5.1-23.7) respectively.

HIV results were obtained for 535 (96%) participants. 173 (32.3% CI 28.4-36.5) tested positive. HIV infection was not associated with previous TB treatment, (OR 0.7 p=0.242), any resistance (OR 0.69 p=0.186) or MDR (OR 0.69 p=0.759).

Conclusion

Although the TB-HIV co infection rate is high in Kampala, the rate of MDR among new patients was low. The rate among the new and PT cases during the past decade had not increased and was not increased among HIV co infected patients. Forces that drive MDR and XDR are not universally present in the African settings with a high TB-HIV co infection.

13. Toxoplasmosis in HIV/AIDS patients at ISS CLINIC Mulago Hospital.

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2. Department of Parasitology, Mycology and Water & Environment Microbiology, Swedish Institute for Infectious Diseases Control, Stockholm, Sweden.

ABSTRACT

Introduction:

Toxoplasmosis is one of the most frequent parasitic infections in humans and animals caused by *Toxoplasma gondii,* an apicomplexan protozoan. It is implicated in 10 – 35% deaths in AIDS patients. This study determined the seroprevalence of *T.gondii* among AIDS patients who were attending ISS clinic at Mulago Hospital that was not known.

Method:

In 2007, AIDS patients (n = 73) who presented at ISS clinic, Mulago Hospital with fever, headache or poor eye –sight were recruited for the study had their blood samples taken for *T.gondii* antibodies (IgG/IgM) detection using LAT (Bio-Rad, France). The data were analyzed using 2x2 statistical tables to determine the relationship between outcome variables and demographic variables.

Results:

Fifty five (75.3%) females and 18 (24.7%) males with age range of 19 – 49 years, median 32 years and mode 23 years were enrolled for the study. Thirty five (47.9%) blood samples tested positive for *Toxoplasma gondii* antibodies. Twenty six (47.3%) females and 9 males (50%) tested positive for *T.gondii* antibodies. Prevalence of fever, headache and poor eye sight in *T.gondii* LAT positive status were 65.8%, 61.8% and 34.2% respectively.

Conclusion:

The study showed high (47.9%) seroprevalence of *T.gondii* among the AIDS patients at ISS clinic, Mulago Hospital. There was no significant gender difference in *T.gondii* seroprevalence status ($p<.841$), whereas fever and poor eye sight were related to toxoplasmosis ($p<.013$ and $p.048$).

Recommendations:

1. Screen for *T.gondii* antibodies in HIV/AIDS patients routinely.

2. Introduce more sensitive and specific tests for latent and reactivated *T.gondii* in HIV/AIDS patients such as ELISA, EIA and PCR.

3. Conduct a nation wide survey for establishing seroprevalence of *T.gondii*

14. Approaches to implementation of external quality assurance in HIV Testing: A literature review

Authors: *Mary DUTKI[1], Geoffrey WAISWA[2], Fredrick MAKUMBI[3], David SERUKKA[2]. [1]Makerere University School of Public Health-CDC HIV/AIDS Fellowship Program, Kampala, Uganda; [2]Protecting Families Against HIV/AIDS (PREFA), Kampala, Uganda; [3]Makerere University School of Public Health, Kampala, Uganda. E-mail:dutkimm@rediffmail.com*

ABSTRACT

Introduction

Quality assurance (QA) is an active and ongoing process of monitoring a system for accuracy and reliability of results. It permits corrective action when established criteria are not met. An internal QA program routinely monitors and assesses quality in the pre-analytical, analytical, and post-analytical phases of the testing process while an external QA program monitors the effectiveness of the participating laboratories' quality assurance systems, identifies training needs or other required actions. HIV testing laboratories at all levels are required to participate in an external quality assurance (EQA) program in addition to maintaining a functional internal quality assurance program. WHO recommends that external quality assessments, proficiency tests or sample retesting/rechecking approaches be utilised in conducting EQA programs. While systemic gaps threaten establishment of functional internal quality assurance programs in Uganda, HIV/AIDS programs operating in these settings nonetheless need to implement quality assurance programs in order to ensure the accuracy and reliability of HIV test results generated. For this reason a review of literature was conducted to enhance our understanding of the various countries' approaches to developing and implementing quality assurance programs in HIV testing sites. Findings provide insight for planning of similar programs in our local setting where adherence to all recommended QA practices has been difficult to achieve.

Methods

Using the key words HIV, Testing, external, quality, assurance, in the search portals Google, Hinari, PubMed, Medline, Biomed fifty-three journal articles and forty conference abstracts were extracted and reviewed. These were analysed for the following: reasons for conducting quality assurance, quality assurances approaches or methods, and lessons learnt from the approached used.

Results

External quality assurance approaches were predominated by external quality assessments. These were driven by the need to identify sources of errors and barriers to quality, and also to inform plans for improvement of lab analytic processes. External quality assessments utilised combinations of the following methods (1) Questionnaires and monitoring tools to assess availability of materials, infrastructure, equipment, internal and external quality control procedures, data management practices and personnel. (2) Distribution of proficiency panels from reference laboratories and observation of the testing processes with immediate discussion of performances. In one case, photographed rapid HIV test results were used to assess the proficiency of personnel to correctly interpret test results. (3)Client exit interviews to determine client satisfaction and to assess the quality of services provided. (4) Lab management and staff interviews to assess the levels, and availability of management and leadership skills.

Discussion and Conclusion

This review shows that the external quality assessment approach combined with proficiency testing is preferred over rechecking/retesting of specimen. However, neither the efficiency nor the cost-effectiveness of these approaches singly or in combination has been documented. Programs therefore may weigh the strengths and weakness of each of the different approaches, and adapt that most feasible for their setting. Most importantly however, the approach selected should lead to corrective action. It should evaluate the analytical phase of HIV testing, where most errors have been known to occur and it should also aim at improving the performance of the personnel involved in testing given a high turnover of personnel in most facilities.

15. Piloting a National Laboratory External Quality Assessment Scheme for HIV Associated Opportunistic Infection in Uganda

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ABSTRACT

Location of Project/Program: Uganda. Key Words: External Quality Assessment, opportunistic infection

Implementation Area: Evolving challenges in Laboratory

Background and Implementation Approach

In delivery of quality health, accuracy of laboratory diagnostic results is vital in the improvement of care and control of diseases of public health importance. Uganda, like any other developing country, cannot adequately fund its laboratory services. In 2008, PEPFAR through CDC- Uganda, started supporting the Central Public Health Laboratories to establish a National Laboratory Quality Assessment Scheme for HIV/AIDS and Opportunistic Infections. The implementation of this program was phased out as a pilot and roll out in 1,186 laboratories. A successful pilot phase has been implemented in 80 laboratories. The objective was to improve laboratory diagnoses through continuous identification of gaps and standardization of procedures.

Analysis Design and Methods

The pilot phase was implemented in eighty laboratories that tested a set of twelve unstained blood slides, five unstained TB slides and three concentrated formalin fixed stool samples. Ten laboratories also analyzed two bacterial isolates transported in Carry-Blair medium in addition to the above panels. The laboratories tested specimens using their routine standard operating procedures and sent reports to the Central Public Health Laboratories within 15 days for evaluation. Performance indicators used were percentage of laboratories that reported back within 15 days, mean, standard deviation, percentage of laboratories in control, running score and performance index.

Results

Fifty seven 57(71.2%) laboratories reported back within 15 days for blood slide microscopy, 56(70%) for stool microscopy, 58 (72.5%) for TB microscopy and 6 (66.6%) for bacteriology. Performance means were 68.10% with STD of 15.7 for haemo-parasites, 62.72% with STD of 10.6 for stool-parasites, 95% with STD of 10.1 for TB and 62.80% with STD of 10.4 for bacteriology. Percentages of laboratories in control were 24% for haemo-parasites, 18% for stool-parasites, 94.8% for TB microscopy and 11% for bacteriology. Laboratory results were not reported in a consistent form. The quality management issues raised in the pilot phase include faulty and poor maintenance of equipment, poor storage of laboratory reagents, laboratory technician errors and poor attitude towards quality improvement. Running score and performance index were not calculated, since more than three reports were needed for their calculations.

Conclusions and Recommendations

In this pilot phase it has been concluded that enforcement of the use of Standard Operating Procedures, charts and references in the laboratories for standardization of laboratory procedures and reporting; capacity building for equipment maintenance; continuous training and regular supportive supervision; strengthening of internal quality management and participation in external quality improvement schemes is necessary for quality laboratory performance.

16. Adherence to times three rule among Ugandans

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ABSTRACT

Introduction

HIV-related research studies of recent are being conducted in many African countries. Laboratory reference ranges for individual healthy Africans have not been formally established. The ranges used are those from Caucasians Additionally, laboratory variations have also been seen between different African populations. MRC/IAVI and Uganda Makerere University Walter Reed Project (MUWRP) are among a few organizations that have championed in establishment of Laboratory reference ranges. This study was to establish if the *times three* rule (Number of millions of red blood cell count (RBC) x3 = g/dL Haemoglobin (Hgb) x3 = Haematocrit % (Hct)) is observed in a healthy Ugandan population. The study compiled and analyzed the raw data of RBC, Hgb and Hct determined in a study code named RV164 by MUWRP. A relationship between RBC, Hgb and Hct was established using Microsoft excel.

Methods

The samples were derived from healthy Uganda Donors, analyzed with AcT.5Diff CAP Coulter and data entered in Microsoft Excel software. The study simply analyzed these results by using the same statistical package. The distribution of average RBC, Hgb and Hct among Females, Males and General population (both females and males) was noted and so the average expected Hgb and Hct obtained.

Results and Discussion

The RBC, Hgb and Hct followed general trend in the three groups. Average expected Hgb and Hct showed 97.5% agreement with average empirical values. This was in line with the literature.

Conclusion

The times three rule was observed in the Ugandan population and is a key issue in quality assurance in haematology. The study recommended that deviation from the rule should be investigated before results are reported. More studies need to be carried to validate the rule may be at regional level in Uganda. The rule may however not apply in most haematological diseases and obeying the rule does not rule out disease.

17. Polymerase chain reaction (PCR) as applied in the Malaria sub microscopic diagnosis and genotyping of P.falciparum at Epicentre Mbarara research base.

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ABSTRACT

Malaria remains a leading cause of morbidity and mortality world-wide, especially in pregnant women and children, and particularly in tropical Africa, where at least 90% of the malaria deaths occur. Two of the issues in the fight against Malaria are the diagnosis and the emergence of parasite resistance against old (Quinine) and new (Artemisin) Antimalarials.

The common diagnosis of Malaria relies on Microscopy with a sensitivity of 16 parasites /µl of blood and o Rapid Diagnostic Test (RDT). However, in some infections by malaria parasites especially in adults living in malaria endemic and sub-endemic areas, the parasitemia remains below levels detectable by blood smear microscopy. Even when the parasites are detected, the species identification is sometimes not satisfactory even when done by a very experienced microscopist. Unfortunately there is no consensus on the pathogenesis of severe Malaria and the high parasitemia is ot the only cause. It is essential to detect the presence of any parasite that could cause Malaria. The Polymerase Chain Reaction (PCR) can be used to detect the presence of malaria parasites and identification of the species at a submicroscopic level.

Last month, the WHO warned that the Plasmodium parasite is increasingly resistant to the Artemisinin, the best drug around, and failure to contain this trend would bring serious consequences. For the drug in use and drug to be approved to be put out on the market and used in treatment, its efficacy (ability to kill all malaria parasites in the body) needs to be tested.

During clinical trials conducted to assess the efficacy of Antimalarials drugs, patients are often followed up for up to 49 weeks to check on the efficacy and safety of the drug. The aim is to differentiate the Re-infection (the recurrent parasitemia is due to a new infection from a mosquito bite) and the Recrudescence (the recurrent parasitemia is due to the same parasite) that means a treatment failure. PCR is used in such cases to amplify polymorphic regions of the parasite genome to differentiate between the parasite detected in the patient at the time of drug administration and the parasite from the recurrent parasitemia.

At Epicentre, we have been using dried blood spots (DBS) for genotyping of 117 samples and a cell pellet for submicroscopic diagnosis of more than 1000 samples. With use of pellet, PCR was at least 160 times more sensitive than our microscopists who have a sensitivity of up to 16 parasites per µl. Some challenges have been encountered, however, with the performance of the procedures, especially in quality of sample collection, method of DNA extraction and optimization of the reaction.

18. Ongoing outbreak of typhoid fever with high rate of intestinal perforations, Kasese District, Uganda, 2008-2009

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Central Public Health Laboratories, Ministry of Health

ABSTRACT

Background

Salmonella enterica serotype Typhi causes an estimated 22 million cases of typhoid fever and 216,000 deaths worldwide annually; intestinal perforation occurs in 1-3%. In August 2008, Ministry of Health began investigating a typhoid fever outbreak with large proportion of intestinal perforation in rural Kasese District. In February 2009, CDC joined the investigation to enhance laboratory-based surveillance and to determine magnitude of the outbreak.

Methods:

A suspect case was defined as onset of fever and abdominal pain in a person with either vomiting, diarrhea, constipation, headache, general body weakness, joint pain, poor response to antimalarials, or intestinal perforation. Beginning March 4, 2009, suspect cases provided blood and stool samples for bacterial culture. Intestinal specimens from surgical patients were sent to CDC for examination.

Results

During July 1, 2008 - March 19, 2009, 309 suspect cases of typhoid fever were reported. Median age was 16 years (range <1-70 years); 104 (34%) were female. Two-hundred thirteen (69%) were hospitalized; 169 (55%) had intestinal perforation, and at least 17 (6%) died. *S.* Typhi was detected in 3 of 12 stool cultures and 0 of 17 blood cultures before enhanced laboratory-based surveillance began. A subset of suspect cases were tested during enhanced surveillance. *S.* Typhi was isolated from 19 (17%) of 109 patients; 14 (22%) of 65 blood cultures and 9 (12%) of 78 stool cultures were positive. Pathology studies of 11 intestinal specimens showed perforation of the ileum with inflammatory response suggestive of typhoid fever.

Conclusions:

This large outbreak of typhoid fever is associated with high intestinal perforation and mortality rates, possibly due to underreporting of milder illnesses, delay in appropriate therapy, or increased virulence of the outbreak strain. A community survey is underway to assess burden of disease in the community and risk factors for infection. *Salmonella* Typhi isolates are being examined to assess virulence factors and determine the number of outbreak strains.

19. Prevalence of causative agents of Puerperal sepsis and their antibiogram in patients attending Itojo hospital

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ABSTRACT

Background

Puerperal sepsis is a nosocomial infection that occurs during puerperium,a period following pregnancy termination when the mother is supposed to get back as nearly as possible to her pre-gravid state. It is an important preventable cause of maternal mortality and morbidity.

Purpose

The main objective was to isolate the bacterial causative agents of puerperal sepsis and determine their antibiograms.

Method

Non-probability convenient sampling was done among mothers who had undergone normal delivery or caesarean section. A total of fifty mothers who had developed puerperal sepsis were included from December 2006 to March 2007. High vaginal swabs were collected, and pus swabs were also got from wounds of mothers who had undergone caesarean section. The samples were transported in Stuart's transport medium to MRRH microbiology laboratory for analysis. They were cultured on Blood agar and MacConkey agar. The isolates were identified by biochemical testing and common antibiotic susceptibility testing was done by Stoke's modified method.

Results

The results of study showed that the common causative organisms of puerperal sepsis isolated were Proteus (26%), Klebsiella pneumoniae (24%), Staphylococcus aureus (22%), Pseudomonas auruginosa (16%), Streptococcus (2%) and other unidentified coliforms (14%). The most effective drugs for the Gram negative bacilli were Cefotaxime, Ciprofloxacin and Chloramphenicol. The drug of choice for Gram positive organisms was Cloxacillin.

Conclusion and Recommendation

In conclusion, the commonest causes of puerperal sepsis were Proteus, S.aureus and Klebsiella and drugs of choice puerperal sepsis was Ciprofloxacin, Cefotaxime and Chloramphenicol for Gram negatives and Cloxacillin for Gram positives. It was recommended that for every Puerperal septic case, culture and sensitivity should be done for proper management of the patient, and to minimize complications of unnecessary antibiotic therapy like drug resistance, a more elaborate study on causative agents of puerperal sepsis should be done to include anaerobic cultures, identification tests to strain level and more antibiotics and antibiotic combinations. Antibiotics should only be administered only when it is necessary to; and correct dosing and timing should be st

20. The Ssendi's Babies-(Case Report)

Authors: *Ssendi-Bwogi, Dr. Fidel Simon, Behayo P, Kityo Betty, Ninsiima J, Ayebazibwe B, Kamuntu A*

Mbarara University of Science and Technology

Summary

Congenital abnormalities account for 2% of the live birth in the Western World. In the African Setting, such figures are hard to get because such births are frown at, the fetuses thrown away and the parents shunned. The Ssendi's babies are a collection of congenitally deformed babies collected by the department of Anatomic Pathology of Mbarara University of science and Technology

21. Feasibility of magnetic bead concentration prior to LED-based fluorescence microscopic detection of TB

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Malaria Uganda is one of the 22 high TB burden countries, with an estimated TB incidence of 355 per 100 000 and a detection rate of 44% mainly by sputum smear microscopy using Ziehl-Neelsen (ZN) staining. Although rapid and inexpensive, it has low sensitivity in programmatic settings, particularly in HIV co-infected patients. Because of this, there is an urgent need for new improved TB diagnostics. TB bead technology is based on the principle that paramagnetic beads coated with a specific chemical ligand selectively bind to mycobacterium and can be used to concentrate mycobacteria from thinned sputum, without using centrifugation. Concentrated samples were then examined by light emitting diode-based fluorescence microscopy (LED FM).

We undertook a blinded, cross-sectional study to investigate the performance of TB bead technology in conjunction with LED FM in comparison with direct ZN smears and concentrated FM using conventional decontamination (NALC/NaOH) and centrifugation in 300 sputum specimens from TB suspects presenting at Mulago Hospital, Kampala. Performance was compared to culture (LJ and MGIT) as a gold standard. The complexity and hands on time of the TB bead technology was also assessed in comparison with standard methods.

Simple and affordable methods of concentrating TB which can be used in conjunction with microscopy at the peripheral health facilities should be evaluated for their contribution to improving TB case detection.

22. Validation Of The Makerere University Walter Reed Project (MUWRP) Established CD4 T-Cell Reference Intervals For Use In The Adult Population Of Rakai

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Rakai Health Sciences Program Laboratory

ABSTRACT

Background

Reference intervals are essential for the interpretation of most clinical laboratory data including immunological assays such as CD4 count enumeration in clinical and research settings.

In the past and in most recent days, most Ugandan medical laboratories used or still use manufacturers' reference intervals for clinical laboratory assays which is not a good laboratory practice since these reference intervals may not be representative of the Ugandan and local population. It is recommended that each Laboratory should establish its own reference intervals or validate and adopt reference intervals established by another Laboratory in a relatively similar geographical setting (CLSI C28-A, 2008).

Objective

The aim of this study was to validate the suitability of the CD4 reference intervals established by the Makerere University Walter Reed Project (MUWRP) laboratory in Kampala for use in the Rakai Health Sciences Program (RHSP) on the Rakai Population.

Methods

A cross-sectional study using secondary CD4 count data collected from 113 HIV negative study participants during a community surveillance study in Rakai district. These participants were further screened for health and behavioural related factors, thus remaining with a total of 20 males and 20 females for final analysis and validation mini-reference range determination.

Results/Findings

The overall reference interval for the CD4 count was 505 to 2009 cells/ ul, with a mean of 1031cells/ul (Standard Deviation 318) median 1011cells/ul (IQR 471) and 95% confidence interval of 929-1133. Reference intervals for males was 610 to 1509cells/ul, with a mean of 985cells/ul (Standard Deviation 267), median of 917cells/ul (IQR 443) and 95% confidence interval of 861 to 1110, while reference interval females was 505 to 2010cells/ul, with a mean of 1077cells/ul (Standard Deviation 364), median of 1122cells/ul(IQR 493) and 95% confidence interval of 906-1247.These data points fit well in the ranges broadly established by the team at MUWRP.

Conclusion

This validation study indicate that the reference ranges of the MUWRP laboratory are valid for application in the Rakai population for use in the clinical management of HIV patients for interpretation of CD4 cell counts results.

23. Accuracy and handling of 20µl pipettes used by hospital laboratories for Haemoglobin measurement to diagnose anaemia in Uganda

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ABSTRACT

This was a cross sectional study conducted in 52 hospital laboratories distributed through out the Republic of Uganda; 42 were owned by government (40 civilian & 2 military) and 10 were Private Not for Profit (PNFP) owned by Non Governmental Organizations.

The general objective of the study was to assess the accuracy and handling of 20µl semi-automatic microlitre pipettes used in the measurement of Hb to diagnose anaemia in the hospital laboratories. In each selected hospital, 20µl semi-automatic pipettes (test pipettes) were used to pipette 20µl of a standard haemolysate against a calibrated standard 20µl pipette (control pipette). The Cyanmethaemoglobin method was used for the determining the Hb concentration. The resultant Hb values obtained by the test pipettes were checked against those obtained by the calibrated control pipette by use of the controlled paired sample t-test.

Results indicated the hospital laboratories lacked calibration programs, inadequate handling practices and storage facilities for microlitre pipettes. Laboratory staff from 96% of the hospital laboratories did not know nor perform procedures for calibrating microlitre pipettes and 63% hospital laboratories lacked microlitre pipette stands for storing of pipettes while not in use. Despite the fore mentioned findings, Hb values obtained using the hospital test 20µl pipettes were not significantly different from values obtained by use of the calibrated control 20µl pipette ($t = -1.068$ & $p = 0.288$). Hence, the hospital test pipettes would be considered to be accurate.

However, this study only focused on establishing the effects calibration frequency and handling practices on the accuracy of 20µl pipettes. Therefore, another study should be conducted in more hospital laboratories to determine other factors other than calibration, storage and handling of microlitre pipettes that may affect accuracy of 20µl pipettes which can in turn cause inaccuracy in Hb measurement.

24. Self directed on-site laboratory training: a model for effective capacity building in health care

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Introduction

In-service training is essential in developing and sustaining capacity of healthcare professionals. In laboratory sector, in-service training of laboratory professionals is challenging due to the wide range of cadres, workload and understaffing in health laboratories. Often times, training programmes target laboratory managers and laboratory technologists. Laboratory Technicians and assistants who do most of the bench work are rarely targeted. This leads to lower cadres in the laboratories and personnel serving rural areas not to benefit from training opportunities. To bridge this gap, innovative but effective models of trainings need to be employed. IDI developed and implemented a self directed course which is relevant for the target cadres, cost effective and with high impact. This was aimed at improving the quality of laboratory services in lower health care.

Objective

To document the development and the implementation of an effective on-site training model for lower laboratory cadres in Uganda.

Methods

An on-site training curriculum in Basic Laboratory Techniques and Management was designed and developed covering six critical competencies. Facilitators were local resourceful laboratory cadres that had attended laboratory core courses in technical, management and Train the trainers at Infectious Diseases Institute (IDI). Graduates of this course facilitated, supervised and monitored the training process.

Results

An on-site laboratory training curriculum in Basic Laboratory Techniques and Management was developed. Thirteen (13) graduates of IDI courses conducted the on-site training, supervised 30 on-site trainees in West Nile, Hoima and Mbale health regions. There was significant improvement in knowledge and skills acquisition in on-site and IDI based training. On-site training was cost effective and enabled build a mass of local resourceful capacities in laboratory services.

Conclusions

Self directed on-site course is as effective and efficient as off-site trainings. Building local capacities enables effective implementation of a program.

25. A comparative study of Acid haematin and Oxyhaemoglobin visual comparative methods against Cyanmethaemoglobin used in haemoglobin estimation to diagnose anaemia

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The haemoglobin (Hb) level is the most-used parameter for screening of clients for presence of anaemia, the gold standard method for detection of anaemia is Cyanmethaemoglobin and its one of the most used methods based on photometric detection of cyanmetahemoglobin. This method however, cannot be used in low resource areas so alternatively Acid haematin and Oxyhaemoglobin methods are used despite of their discrepancies. One wonders if these methods give the same results like Cyanmethaemoglobin, the Gold standard.

Haemoglobin was estimated by Cyanmethaemoglobin (Drabkin's), Oxyhaemoglobin (Lovibond) and Acid haematin (Sahli's) methods using samples collected by venepuncture. The aim of this study was to compare the performance of the visual comparative methods; Acid haematin and Oxyhaemoglobin against Cyanmethaemoglobin used in haemoglobin estimation to diagnose anaemia.

The study was cross sectional laboratory based carried out at Kiswa Health Centre III laboratory using 209 blood samples. Test performances and their comparisons were assessed by the analysis of coefficients of variation (CV), standard deviation (SD), paired t-test and ANOVA. These tests methods revealed that Oxyhaemoglobin performs better than Acid heamatin in Hb estimation to diagnose anaemia. This study provides good information to the government of Uganda and the public, especially those using Acid haematin to adopt better methods of Hb estimation. Oxyhaemoglobin proved reliable and cheap, thus a better alternative for people in settings with limited resources.

26. Quantitative reference ranges for fasting profiles and oral glucose tolerance test for healthy adults from metropolitanm region (Nairobi) of Kenya

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ABSTRACT

Purpose

To establish quantitative reference ranges for fasting profiles and oral glucose tolerance test for healthy adults from metropolitan region (Nairobi) of Kenya

Methods

A prospective study carried out on 871 healthy subjects from the metropolitan region of Kenya.

Results

The fasting profile parameters investigated were fasting blood glucose (FBG), total cholesterol (TC) triglycerides (TG), high density lipoprotein cholesterol (HDLC), low density lipoprotein cholesterol (LDLC) and TC/HDLC ratio. In addition, oral glucose tolerance test (OGTT) was also investigated. Eight hundred and seventy one (871) healthy study subjects were involved in the study. Established reference ranges were as follows: FBG (venous whole blood) (2.1 – 5.7) mmol/L, TC (2.9 – 6.4) mmol/L, TG (0.44-2.44), HDL C (1.1 – 2.1) mmol/L, LDLC (1.1 – 4.3) mmol/L, TC/HDLC ratio (1.1 –5.4). Established reference ranges for OGTT were as follows: baseline/ fasting blood glucose capillary whole blood (3.2-5.4) mmol/L, half hour (4.7-8.9) mmol/L, one hour (4.4-9.8) mmol/L, one hour and half (4-8.1) mmol/L and two hours (3.4-7.2) mmol/L. Results for gender differences for the studied parameters were as follows: FBG (p=0.124), TC (p=0.205), TG (p=0.705) HDLC (p= 0.52), LDLC (p=0.417) and TC/HDLC ratio (p=0.359). On the other hand, the gender results for timed OGTT were as follows: 0 hour (p=0.123), half hour (p=0.479), one hour (p=0.412), one hour and half (p=0.596)) and two hours (p=0.630). Hence there were no gender disparities for the parameters in the studied adult Kenyan population.

Conclusion

Since the established reference ranges are a reflection of the Kenyan adult population our clinical chemistry laboratory reports interpretations will henceforth be independent of what has been quoted in literature. Likewise effective diagnosis and management of glucose and lipids pathological disorders will be achieved by the use of established adult Kenyan.

27. Malaria prevalence among children aged ≤5 years attending acute care unit, Mulago National Referral Hospital.

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STUDENT MULAGO PARAMEDICAL SCHOOLS

ABSTRACT

Background

Malaria parasites are protozoan belonging to the subclass coccidian. It is caused by four species of Plasmodioum i.e. Falciparum, vivax ovale and malariae and is the leading cause of death worldwide particularly in the developing countries.

Annually more than 300 million cases of malaria result in 1.4-2.8 million deaths more than 95% of deaths under the age of five years. It is also a major health problem in Uganda.

Aims and Objectives

This case study was done to assess the prevalence of malaria in children aged ≤ 5 years attending Acute care unit Mulago Hospistal.

Sample Size

A parasitological cross-sectional survey involving 115 patients aged ≤ 5 years attending Acute care Unit was conducted.

Method

Patients were bled and thick smears made, dried, stained using field stain A and B, dried and examined under x 100 magnification.

For positive slides, thin films were made, dried, fixed in methanol and counter stained in field stain, dried and examined under x 100 to confirm the species.

Results and Discussion

This was a cross–sectional study conducted in the months of July, 2009 from 2/07/09 to 21/07/09.

We saw 115 patients 66(57.4%) were male and 49 (42.6%) were female. Overall 26 (33.3%) tested positive for Plasmodium falciparum.

Among the female children, 12(33.3%) tested positive while among the male 24(66.7%) were positive.

Conclusion

During the month of the study, the prevalence was high and the male gender was more prone to the infection than female.

40% of the male came from the areas of Katanga, Kamwokya and the Swampy Bwaise and Kawempe while for the female it was only 21%

This accounted for the high infection in male than female.

Recommendation

The study recommended that health officials be actively involved in the education of the communities on the use of insecticides treated Nets, anti-malarial drugs and destruction of stagnant water for both facility and home based

28. The role of barber in HIV Prevention at Workplace

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EASTWAY MEDICAL RESEARCH INCORPARATION, KENYA

ABSTRACT

Background:

One of the **mode of Hiv transmission** is blood contact from infected person to uninfected individual through open skin cut/skin abrasion .The studies indicates that chances of one getting infected through this mode is 0.03%.

In public saloons , the barbers shave every client that comes for his services infected and uninfected he handles some individual with bleeding skin wounds indiscriminately of their Hiv status .He poses risk of transmitting infection from one client to another and also to himself. The study revealed that only 12 % of the study sample possess basic Hiv training .

Tool of trade, The issue of hygiene is wanting ,5.5% of the study sample use Jik to sterilize the shaving equipments after and before shaving clients

The study revealed that 12.5% of the study population know that Hiv can be transmmited through skin cuts. **Level of education** , In terms of education which is relevant in understanding Hiv transmission the level of education was 4.5% (college) 10% (high school) 19.5%(primary school) and 1 % university of the study sample. **Training need**, the study revealed that 22% of the study population wishes to be trained but did not have time to go for training

Conclusion

There has been serious assumption that the barber is aware of Hiv prevention and that it is common sense for them to protect themselves. The study revealed evidence that there is inadequate information for the barber to use in Hiv prevention at workplace .There is urgency of the government and stakeholders to support financially and through education as a away of reducing Hiv infection

Recommendations

- There is need for data to be collected on the number of individuals infected with Hiv through this method and consider the above remedies
- Government and stakeholders to develop prevention program and fund training of barbers
- The government and stakeholders to develop a monitoring program on best hygiene practices among barbers
- There is need to sensitive the public on hygiene to be observed when visiting barber shops

29. Quality Assurance for Malaria Laboratory Diagnostics a Baseline Assessment in the Midwest Districts of Kiboga, Hoima, Kibaale, Buliisa and Masindi

Authors: William LALI[1], Gaspard GUMA[1], Mpeka Betty[2], Rukaaka Mugizi[2] and Agaba Bosco[3]

ABSTRACT

Introduction

The Quality Assurance and Control strategies have been recognized as the key prerequisites for strengthening and improving the quality of diagnostic systems. To achieve this, there must be systematic method of identifying performance gaps and implement interventions aligned towards performance gaps. These have been crucial and cost effective in the treatment, and preventing malaria. USPA report (2007) reported 26% health facilities have laboratory capacity of diagnosing malaria by microscopy technique or Rapid Diagnostic Tests (RDT's), of these 80% were hospitals and 36% heath center IV laboratories respectively. The Ministry of Health and development partners are committed to the improvement of the national laboratory service through strengthening quality assessment. In April 2009, Malaria Consortium and Central Public Health Laboratories designed Malaria Rechecking External Quality Assessment Scheme (EQAS) in the Midwest region. This EQAS was phase as baseline assessment, sensitization, implementation and evaluation phases. The objective of the baseline was to identify and fill service gaps before establishment of Re-checking External Quality Assessment Scheme for Malaria laboratory diagnosis for malaria in the Midwest region.

Methods and Materials

A sample size of 50 participating laboratories were randomly selected, recruited and sensitized on the stakeholders' responsibilities and implementation strategies. Of these --- were hospital, --- health center IV and III health center based laboratories. The capacity baseline for the participating laboratories was assessed using hybrid of national and World Health Organization Laboratory Assessment Tool. The primary readers (participating laboratories) will randomly poll 10 (1%) 5 positive and 5 negative examined slides for re-reading at secondary center (Hoima Regional Referral Hospital) monthly. Discordant slides will be re-read at the tertiary center (Central Public Health Laboratories). Slide readers oriented, national database established, performance indicator defined and feedback and corrective actions will be provided to the participating laboratories.

Health Facility Baseline

Forty three (86%) laboratories were visited, total number of laboratory staff in these facilities was 80, of these 36 (4.5%) were laboratory assistants. 7 (17%) technicians attended at least one refresher training in malaria and 28 (56%) in TB microscopy in the last 12 months. While 23 (22.7%) have attended refresher training in malaria and 23 (54.6%) for TB QA/QC in the same period. Twenty (46.5%) laboratories assessed have Standard Operating Procedures and relevant laboratory diagnostic manuals. The use of Personal Protective Equipment were 20 (48.8%) disinfectants, 28% for protective gear/ face masks and 5 (12%) have HIV/AIDs post exposure prophylaxis guidelines. Laboratories that participate in EQA were 34 (79.5%) for TB and 9 (21%) for malaria respectively. Majority of the laboratories 39 (91%) replenish supplies through the laboratory credit line. 24 (57%) laboratories visited have experienced stock-outs of malaria and 46% for TB reagents laboratory in the past 6 months. 41 (98%) laboratories regularly

submit surveillance report to the higher levels. 20 (47%) laboratories and 37 (87%) had received supportive supervision from higher authority for malaria and TB in the last 12 months. 33 (76.7%) of laboratories visited had equipment in good working conditions, while 14 (3.2%) had adequate diagnostic visual aid charts.

Conclusions

1. Majority of the laboratories were managed by laboratory assistants/microscopists.
2. Relatively few laboratory personnel have assess to microscopy techniques and quality assurance refresher training
3. The bio-safety protection measures in the laboratories were suboptimal
4. Laboratory credit line was the main source of laboratory reagent supplies although majority of laboratories have experience stock outs and expiries
5. Poorly maintained or obsolete laboratory equipment were in use in many laboratories
6. Very few laboratories had adequate diagnostic visual aid charts

30. Challenges of building up a functional laboratory network for economic development in a poor resource country. The Rwanda experience

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Ministry of Health Rwanda

ABSTRACT

The war and genocide of 1994 in Rwanda left an already weak Ministry of Health system in shambles and the quality of laboratory services to support quality health care delivery at all levels of health care were equally at the lowest standards. The Rwanda government then embarked on the process of health infrastructure rehabilitation and planning based on the Vision 2020.

The main challenges included inadequate infrastructure, lack of national policy establishing laboratory structure, organization and responsibilities, insufficient qualified and skilled personnel, integration of private laboratories, lack of laboratory norms and standards, poor procument and supply chain management system.

A situational analysis carried out by the National Reference Laboratory (NRL) in 2005 revealed major findings: 50% lacked personnel with basic qualification, 78% lacked laboratory supplies and reagents, 76% lacked equipment, and 71% had poorest laboratory infrastructure and a score of 12% approval rating by laboratory users and low moral laboratory personnel. The main tests composed only of TB microscopy and HIV rapid test

The creation of the NRL in 2003, establishment of laboratory schools and the national medical laboratory policy in 2005 and the organic law in 2008, all provided the needed administrative and technical guidance and direction necessary to improve the quality of laboratory services in Rwanda.

To-date after 5 years of consistent development and operation, the national reference laboratory at provides specialized tests, administrative and technical leadership to a well established national laboratory network, which covers 415 health facilities. The network provides a wide range of standard tests, integrated services in HIV/Aids, TB, Malaria, epidemic diseases and research.

31. Glycerated haemoglobin in the monitoring of diabetic patients on treatment at the diabetic clinic of Mbarara Regional Referral Hospital.

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ABSTRACT

Diabetes is slowly increasing in incidence worldwide probably due to dietary reasons out of increased urbanisation. Traditionally, in Uganda, the assessment of how well diabetes is being controlled is through its continuous monitoring achieved through frequent measurement of Random Blood Glucose (RBG). However glycated hemoglobin (HbA1c), although not routinely used, is a good indicator of the degree of diabetic control because it assesses the patient's long term glucose providing a picture of the body's glucose levels for the previous three months. This enables the prediction and monitoring of diabetic ill complications. This equips concerned patients with the knowledge to deal with the consequences.

This study on the use of HbA1c and RBG in monitoring treatment of diabetes at Mbarara Regional Referral Hospital (MRRH) was conducted from February - April 2009. It was a cross sectional comparative study involving 57 participants who consented and provided blood samples. The samples were analyzed for the parameters above. Percentage (%) HbA1c was calculated and recorded. The two parameters were evaluated and compared as per the advantages and shortcomings.

The research findings revealed that after a follow up of the participants, RBG alone could not predict change in treatment for a patient whereas HbA1c provided the necessary information to the Clinicians to predict and change treatment appropriately. Three of the participants' RBG levels could not knowledgeably empower the clinician to maintain or change treatment because RBG levels were still elevated above normal which would bias towards change of treatment to hypoglycemic medication, whereas HbA1c levels were normal and thus the participants glucose were not in the alarming state. Six participants in the study showed both levels of HbA1c and RBG elevated and this information empahasised the usefulness of concurrently assessing both parameters for a better and convicing patients glucose picture.

It is concluded that the use of RBG testing as a means of monitoring treatment is better complemented by the use of HbA1c to asses the patients' long term glucose levels irrespective of whether the patient was newly diagnosed, already diagnosed and on treatment..

32. Developing a quality manual for your laboratory

Author :*Okwalinga Paul*
CDC Uganda

ABSTRACT

Over 90% of laboratories in Uganda operate without having quality manuals.

A **laboratory** is a facility that provides controlled conditions in which scientific research, experiments, and measurement may be performed. This function is effective if the service and the results provided are valid, reliable and describe accurately the properties of the samples analysed. This allows conclusions to be drawn regarding the quality of the products which can be used as an appropriate basis for any administrative or legal action which must be taken.

Setting up a quality system in a laboratory means defining the organizational structure, responsibilities, procedures, processes and resources necessary to achieve the following objectives:

1) To prevent risks;
2) To detect deviations;
3) To correct errors;
4) To improve efficiency and
5) To reduce costs.

It is essential to have a Quality Manual which lays down formally the requirements that the laboratory uses to demonstrate their quality management systems, technical competences and valid results. In addition, your quality manual outlines how you meet

- ISO 17025
- ISO 9001

The need to gain ISO 17025 compliance and accreditation (**Accreditation** - a process in which certification of competency, authority, or credibility is presented.) impacts laboratories of all types and sizes. The ISO 17025 Quality Manual Template can be applied to any type or size of laboratory. **ISO 17025 and IEC 17025** Laboratory Accreditation is the criteria for laboratories to demonstrate the technical competence to carry out specific test methods; generate valid calibration data, test results, and operate an effective quality system. **ISO 17025** applies to any organization that wants to assure its customers of its precision, accuracy and repeatability of results.

ISO 17025 certified manufacturers demonstrate to their customers that the product quality laboratories optimally perform specified tests on the products supplied; laboratory personnel are trained and qualified to conduct these tests; instruments utilized are calibrated and serviced, results are properly reported, and that all of these processes have been confirmed by an independent auditor.

Customers expect results provided by the supplier's laboratory to be as accurate and objective as those conducted by an independent laboratory or at the customer's laboratory.

The purpose of this presentation therefore will be to equip participants with knowledge and formats of how to develop acceptable quality manuals for their respective labs to meet international standards

References

ISO 25,Elements of a Quality System and *ISO 10013, Guidelines for developing a QualityManual*.WHO/ VSQ/98.04 5

33. To determine the level of PPAR-≤and CD36 gene expression in human monocytic cell lines.

Authors: Samuel Ongwae & Andrew Thomas

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ABSTRACT

Introduction

Peroxisome proliferator activated receptor gamma (PPAR-γ) is a member of nuclear transcription factors that play several regulatory functions. These functions include; regulation of inflammation, cellular growth, cell differentiation, apoptosis and glucose haemostasis. It is expressed in high levels in white adipose tissue and in other cell types including monocytes, macrophages. PPAR-γ□□ has also been implicated in modulating the differentiation of monocytes to macrophages, regulation of pro-inflammatory activities, and stimulation of oxidized low-density lipoprotein (OxLDL) uptake. PPAR-γ expression is increased during differentiation of monocytes to macrophages, and ligand activation. PPAR-γ ligands stimulate the expression of pro-inflammatory receptors (CD14 and CD11b/CD18), increase expression of class B scavenger receptors (CD36 and SR-B1), and accelerate foam-cell formation.

Aim

Determine the level of PPAR-γ and CD36 gene expression in human monocytic cell lines,THP1 ,THP1(Differentiated) and MM6, Compare the level of PPAR-γ and CD36 in these cell lines, and assess the ability of these cell lines to induce PPAR-γ gene expression using the PPAR-γ agonist Rosiglitazone.

Methodology

These cell lines were cultured in RPMI-1640 medium, supplemented with 10% (v/v) foetal bovine serum, 1% OPI supplement. These cells were treated with 0.1µl/ml PPAR-γ agonist rosiglitazone and incubated for 24 hrs. RNA was extracted by use of Trizol reagent. PCR was done using RT enzyme, CD36, PPAR-γ and B-Actin primers. The PCR products were then run on 2% Agarose gel and a 100-bp ladder was used as a size standard. The densitometry analysis of PCR products was performed using computer software, and was standardized by the B-Actin product. The ability of these cell lines to induce PPAR-γ gene expression using the PPAR-γ agonist Rosiglitazone was also assessed.

Results

MM6 cells showed that there was a significant increase of 62 % (Pvalue=0.04) in the expression of CD36 gene in treated cells compared with control cells. In the same cell line there was an increase of 30 % (Pvalue=0.155) PPAR-γ gene expression though not significant.

Undifferentiated cells had a 31 % (PValue=0.76) increase in CD36 and 43 %(Pvalue=0.56) for PPAR-γ. These increases were not significant.

Differentiated THP1 showed CD36 significant increased by 10 % (Pvalue=0.00017) and PPAR-γ had a decrease of 6 % (Pvalue=0.28).

The findings are concurrent with other researcher on the effect of PPAR-γ ligands on monocytic cells.

Discussion/Conclusion:

The results showed that the level of PPAR-γ expression increases with differentiation. PPAR-γ agonists induce the expression of PPAR-γ and its target gene CD36.

PPAR-γ modulates risk factors associated with the development of arteriosclerosis. These include dyslipidaemia, insulin resistance, inflammation, and hypertension

34. Haemostatic abnormalities in Hiv/Aids patients taking Highly Active Antiretroviral Treatment at JUSH ART clinic, Ethiopia

Authors Abdi Samuel, Zewdineh S/mariam and Lucy Mimano.

ABSTRACT

Background

Haemostatic abnormalities are a common finding in HIV infected patients and is associated with thrombocytopenia, prolonged APTT, hyper-coagulability, atherosclerosis, coronary-artery pathology, and microangiopathy which decrease the patients' quality of life. In the era of HAART the prevalence of thrombocytopenia has been reduced but PI combination regimens significantly alter the fibrinogen level, prothrombin time (PT) and APTT and induce increased bleeding.

Objective

To compare haemostatic abnormalities in HIV patients taking HAART and HAART naives.

Method

A comparative cross-sectional study was conducted on 113 individuals from April 1, 2009-April 10, 2009 among patients attending JUSH ART clinic to assess haemostatic abnormalities in HIV patients taking HAART.

A convenient sampling technique was used to collect data using pre-tested questionnaires and blood sampling was as per SOP. PT, APTT, and platelet count were assayed employing standard procedures. Data was compiled and analyzed by using SPSS 16.0.

Result

The prevalence of haemostatic abnormalities in general in the study group was 10.6%. Nine (8%) of the study subjects had abnormal platelets count (all thrombocytopenic). Eight (7.1%) of HAART naives had thrombocytopenia whereas one (0.9%) of those on HAART had thrombocytopenia and none from both categories had thrombocytosis.

A significant association was observed between HAART and thrombocytopenia. (OR=1.07, p=0.032). Five (4.5%) of the study participants had abnormal prothrombin time (PT), of which participants on HAART and HAART naïve were two (1.8%) and three (2.7%) respectively. No statistically significant association was observed between HAART and PT (OR=1.5, P=1.00). Six (5.4%) of the study participants had abnormal APTT, of which three (2.7%) from those on HAART and three (2.7%) from HAART naïves, had abnormal APTT (all prolonged). No statistically significant association was observed between HAART and APTT (OR=0.98, 95% CI 0.15, 6.45). **Conclusion:-** Thrombocytopenia had significant association with HAART, whereas PT and APTT has no statistically significant association with HAART.

35. Early infant HIV diagnosis in a resource limited country is possible – Uganda's experience

Author: *Kiyaga Charles*
Central Public Health Laboratory, Ministry of Health

ABSTRACT

Background

With HIV prevalence rate of 6.5% among pregnant women in Uganda, approximately 91,000 babies are born to HIV positive mothers annually. Before 2007, these babies didn't have access to early infant HIV testing and had to wait until after 18 months. Unfortunately, over 50% of the HIV infected would be dead by then, and some who were born HIV negative could have been infected through breastfeeding.

In 2007, EID services were started so as to guide early intervention for HIV exposed and infected infants and also to assess and improve the effectiveness of the PMTCT program.

Materials & Methods

1. Seven labs in four regions were equipped with DNA PCR capacities to test infants for HIV
2. A referral network was created that connected health facilities to the seven laboratories
3. Courier services were contracted to support the referral network.
4. Health facilities collect the samples, and delivered them through the courier to the testing laboratories.
5. After testing, the laboratories send results back through the courier.

Results

1. A total of 265 Health Facilities participated in this study
2. Each of the 80 districts in Uganda had at least one participating health facility.
3. 21,080 infants were tested in two years
4. 6,810 were tested in 2007 and 14,270 in 2008
5. 3,689 infants have been found HIV positive to date
6. Overall positivity rate is 17.5%, positivity among boys is 16.5% and among girls is 18.4%
7. HIV positivity rate for babies whose mothers went through PMTCT was 12.7% compared to 23.2% for those whose mothers did not.

HIV positivity rate increases with age of testing. Early testing is therefore beneficial.

The HIV positivity rate of babies whose mothers went through PMTCT and those whose mothers did not is significantly different at the different ages of testing. This shows the impact of post-partum exposure.

Conclusion

1. Infants of HIV infected mothers now have access to early HIV diagnosis and early care/ treatment.
2. Lower HIV positive rates among infants who test early and hence an opportunity to protect them from re-exposure through rationalizing breastfeeding decisions
3. Program challenges include; access – poor road network and limited operational zone for Posta Uganda; long turn around time for results; poor follow-up for the tested babies.
4. Improve follow-up and linkage to care and treatment for the tested babies
5. Improve turnaround time of DBS results – coordination between health facilities, laboratories and Posta Uganda
6. Low positivity rate among babies whose mothers went through PMTCT shows the impact of PMTCT intervention.

36. Mananaging clinical laboratory services as a business enterprise

Author: *Kiyimba Stephen,*
Ebenezer Clinical Laboratories-Kampala, Uganda

ABSTRACT

Like any other successful business enterprise a clinical laboratory can be run profitably when there is purposeful planning in its management. There must be a strategic management plan with a mission that is clear to the management team and all the staff. This is accompanied with SMART objectives. It is also recommended to have a SWORT analysis where possible.

Similar to other business enterprises competition is expected in market of offering lab services, do not create enemies out of your competitors, instead, collaborate with them. "Customer is the king" establish a good and effective customer care service.

Human resource is the only resource in the company that can think and can be consulted. When creating positions for the company ensure that the qualifications and competence for each position is well defined and a candidate with the most fitting qualifications is appointed. Each employee must have clear terms of service and description of his/her responsibilities.

Establish a proper accounting system. Engage services of a qualified accountant. Differentiate personal financial requirements from the business requirements. Produce the financial statements (cash flow, profit and loss account, trial balance and a balance sheet) regularly at specified periods.

37. Medical Laboratory Practice in Uganda from inception to date- and the next 10years.

Author: Patrick Ogwok;
MBALE REGIONAL REFERRAL HOSPITAL

ABSTRACT

Background

Medical Laboratory practice in Uganda is as old as the practice of modern medicine. Before the commencement of formal training in 1929, clinical practitioners would prescribe drugs 'blindly'. This practice continued even after the training of Medical Laboratory Assistants was started. Over time however, the number of professionals coming out of the training school could not cope up with the demands for service delivery. It therefore became fashionable to train some people locally so they can just know how to identify the common parasites such as malaria and helminthes.

Today, more people are getting trained in Medical Laboratory Technology with qualifications of Bachelors, Masters and even Philosophy of higher degrees (PhD). The attainment of higher qualifications coupled with improved technological advancement and high level research in medical science has taken Laboratory practice into very high levels. In Uganda for example, a number of Laboratories have been registered by the Allied Health Professionals Council (AHPC) and a few have been accredited to international quality standards. Despite all these however, there are still many people in Uganda who practice Medical Laboratory science without having gone for formal training. These people, referred to as 'quacks', jeopardize the reputations of professionals and also put the lives of Ugandans at risk.

Methodology

This information was obtained through one-on-one interaction with the senior professionals in the fields of medical Laboratory sciences and clinical medicine and also through direct observations by the researcher.

Achievements

The practice of medical laboratory profession has been very satisfactory to the members of the professional fraternity. Earlier students were automatically sponsored for their diploma program in the United Kingdom. After the diploma program was decentralized, students were entered into the payroll as soon as they finished the 2 years of certificate. This made MLT the most favorable of the paramedical courses in Mulago hospital.

To date, Medical Laboratory Technology is one of the most highly marketable scientific professions in the country. Graduates are easily employed in the public sector and research institutions.

Professionals have teamed together in an association to provide advocacy that's changing the face of the profession at a very high rate.

Challenges

There are 3 facets of the challenges facing medical laboratory profession in this country namely 'Intra-professional' challenge where medical laboratory professionals literally hand over the profession to the 'quacks' either by omission or by commission. The 'inter-professional' challenges where other cadres of the medical fraternity took long to accept Medical Laboratory Technology as an important component of Medical service provision and even to date; many medical practitioners both in public and private sector, still employ unqualified people to provide medical laboratory services. The 'extra-professional' challenges are where people outside the medical practice such as business community bring into the country sub-standard reagents and equipment.

Way forward-the next 10years.

Bring up ALL the professional members in the association to fortify the ability to lobby for positive policy changes

Provide up to date in-service training to instill the good laboratory practices in the profession

Work with other medical professional associations and AHPC to reduce and/or eliminate 'quackery'.

Synergize with the medical Laboratory equipment manufacturers and their agents to bring the improved technology down to the people.

38. Uganda Medical Laboratory Technology Association (UMLTA) 1968-2008

Authors: *L.L.O.Kerchan and Rawdembo Mugisha*
Ebenezer Clinical laboratory Ltd Kampala and Mulago Paramedical Schools

Abstract:

ABSTRACT

As we celebrate forty (40) years of existence of the Uganda Medical Laboratory Technology Association (UMLTA), it is important for us all to know where we have come from up to the present day as we look to the future.

This presentation therefore will cover three areas namely: past, present and future of UMLTA. In delivering the address, the presenter will first highlight some important and significant developments in medical laboratory technology leading to the formation of the Association in 1968, e.g. introduction of the UKIMLT course in East and Central Africa, the pioneers in Medical Laboratory Technology (MLT), planning for the East African qualifications in MLT and terms and conditions of service.

Secondly, an overview of the growth of the Association up to 2008 will be given including achievements registered. These include : Membership of Uganda MLT Training Policy Committee, Uganda MLT Gazette/Newsletter, Memoranda to Government Commissions of Inquiry into Uganda's Health Services, legal status of Allied Health Professionals, Membership of the International Association of Medical Laboratory Technologists, membership of the Federation of the East African Associations of Medical Laboratory scientists and terms of service for the graduate (degree holder) in medical laboratory technology.

Finally, challenges and other key issues will be presented for discussion with a view of including them in the Uganda Medical Laboratory Technology association plan for the future, e.g. Uganda Health Laboratory Policy, MLT Education and Training Policy, Continuing Professional Development, Formation of Laboratory Specialty Committees, Office for the Association, Annual or biannual recognition of significant contribution(s) in medical Laboratory technology and operationalisation of the Allied Health Professionals Statute, 1996.

39. Implementation of HIV/AIDS Serological Testing Quality Assurance and Quality Control through Partnerships.

Author: *Tibita Jethro Eliezer*
AIC Mbarara Branch

ABSTRACT

Background

Over the whole country of Uganda, there are so many Centres conducting HIV Serology Testing and they all produce results which are given to Clients irrespective of their Sero-status. Many Clients throng Testing Centres seeking for HIV testing but each of them with a different reason ranging from "Feel ill, Lost/Sick Partner, Marriage, Further Studies, Risk of HIV Infection, STD Signs & Symptoms, Confirm Previous results and many others. The concern here is how ***Accurate*** are these results that the Clients receive because many HIV kits are on market, others use incomplete Testing Algorithms and yet various Cadres ranging from Lab Professionals to non-Lab personnel are involved in this activity.

Objective

To determine and establish whether Quality is upheld in areas where HIV Serology Testing is done and whether the results produced are genuine that lead to the enrolment of Patients on Septrin Prophylaxis, ART and TB-HIV Co-Management.

Methodology:

Routine Voluntary Counseling and Testing (VCT) Clients' Blood Specimens from the **15** Indirect Districts Sites Supported by AIDS Information Centre – Uganda in the South-Western Region, AIC Mbarara Main branch Inclusive, for the Period of October 2008 to June 2009 were Tested for HIV using the Current M.O.H Serial Testing Algorithm. The Results were compiled, Data Tabulated and then analyzed in regard to the different Test Kits used (Determine as Screening, Stat-Pak as Confirmatory and Unigold as Tie-Breaker). Those who visited the Main branch also had their Blood samples tested for Syphilis as an extra benefit.

Aliquots of Serum / Plasma Samples of all Blood Specimens Tested for HIV and all Dried Blood Spots Saved out of Some

Blood Specimens also Tested for HIV are all Kept by Sites and Later sent to AIC – Mbarara Main Branch. 3% of HIV

Positive and another 3% of HIV Negative Clients' Blood Samples were then Randomly Sorted / Selected and Forwarded to

UVRI Entebbe for Quality Control / Quality Assurance (QC / QA).

Results

A total of **36605** clients were tested for HIV in this period of 9 Months from October 2008 to June 2009 and **5311** Clients were tested for Syphilis. Out of these, **2949** Clients tested Positive on

Determine while **33656** Tested Negative. **2467** Tested Positive on Stat-Pak while **482** Tested Neg. **88** Tested Positive on Unigold while **394** Tested Negative. he Final and Overall HIV Sero-Positivity Rate is **7.0**%. Only **94** (**1.7**%) Clients out of **5311** Tested were found to be Positive with Syphilis.

3% (77) Samples out of the **2555** Positive Samples and another 3% (**1052**) Samples out of the 35050 Negative Samples Randomly Selected and Sent to UVRI Entebbe were all Re-Tested for HIV at UVRI using other Alternative Methods. All the **77** Samples turned out as Positive and the **1052** Samples also turned out to be Negative as per Initial HIV Test Results Produced in the Indirect Sites and at the Main Branch of AIC - Mbarara.

Conclusion

The Serial (Sequential) Testing Algorithm at AIC – Uganda and M.O.H based on Determine, Stat-Pak and Unigold has Performed consistently well According to the Quality Assessment Results by UVRI – Entebbe.In a VCT / RCT / PICT / PMTCT / HCT Setting, the use of a single HIV Rapid Test Kit is not advisable as Results may not be Genuine and Reliable.

40. Lipid profiles of HIV/AIDS patients and the effect of combination Antiretroviral Therapy in Jimma University specialized hospital, Ethiopia

Authors:Wondwossen Melaku, Bekele Tesfy and Mimano Lucy

ABSTRACT

Background

Highly active antiretroviral therapy (HAART) has been well documented to reduce both morbidity and mortality associated with HIV infection. However ,many HAART regimens incur treatment limiting side effects, such as hyperlipidemia, insulin resistance, and lipodystropy,which along with HIV infection it self, may partly account for premature cardiovascular events in HAART-treated HIV infected patients. Accordingly, there is an urgent need to asses the incidence of hyperlipidemia and lipodystropy to characterize the type of lipid abnormalities, to determine the relative contribution of various regimens available, and to identify factors predisposing to such side effects.

Objective

To determine the lipid profiles of HIV/AIDS patients and to assess the effect of combination antiretroviral therapy.

Method

A cross-sectional comparative study was conducted from February 1 to march 30, 2009 on HIV/AIDS patients attending the HAART program, HIV treatment naïve patients and HIV negatives at Jimma University specialized hospital antiretroviral therapy (ART) clinic and voluntary counseling and testing (VCT) unit. Data was collected using structured questionnaire and standard laboratory format. The data was analyzed using SPSS version 13.0. **Result**: A total of 150 subjects were included in three categories (i.e. 64 HIV positives on HAART, 56 HIV positive treatment naives and 30 HIV negatives) were included in the study. Out of the total participants 59(39.3% were males and 91(60.7%) were females. Their median age was 31 years. The mean serum lipid profiles of HIV patients receiving HAART was as follows: TC=207mg/dl, TG=322mg/dl, LDL-c=110mg/dl and HDL-c32.5mg/dl. The mean serum lipid profiles of HIV treatment naïve patients were as follows: TC=133.5mg/dl,TG=254mg/dl,LDL-c=45.6mg/dl and HDL-c37mg/dl. The mean serum lipid profiles of HIV negative individuals was as follows: TC=146.8mg/dl,TG=231.4mg/dl,LDL-c=61.2mg/dl and HDL-c39.25mg/dl.According to the cutoff values for high risk for coronary artery disease recommended in the US national cholesterol education program (NCEP) guidelines, high TC, high TG, high LDL-c and low HDL-c were found in 25, 84.33,22 and 79.6 % of HIV patients receiving HAAR, respectively. High TC, high TG, high LDL-c and low HDL-c were found in 1.8, 69.6, 0 and 71.46 % of HIV treatment naïve patients ,respectively. High TC, high TG, high LDL-c and low HDL-c were found in 10,73.3,0 and 53.3 % of HIV negative individuals ,respectively. **Conclusion**: Hypertriglyceridemia was the most common type of dyslipidemia and dyslipidemia was prevalent among patients receiving HAART in which patients receiving neverapine containing regimens had high lipid and lipoprotein values. There is no significant difference in the mean lipid values of males and females. **Recommendations**: The importance of baseline and subsequent serum lipid profile testing in HIV patients and drug-drug interactions should be emphasized to physicians who provide care for HIV infected patients. Interventions to address modifiable risk factors should be implemented and evaluated.

41. HIV/AIDS prevalence among women attending antinatal care service at Jinka zonal hospital, South Omo zone, SNNRP, Ethiopia

Authors:Sintayehu Gobezie and Mimano Lucy

ABSTRACT

Background

The HIV epidemic is the greatest non-political challenge to humankind in the 21st century. Women attending antenatal clinics are the predominant source of HIV prevalence data in most countries with generalized epidemics, especially in sub-Saharan Africa. The Ethiopian Demographic and Health Survey estimate of HIV prevalence for women age 15-49 at 1.8% and that of the study region at 1.9%.

Objective

This study aimed to assess the prevalence of HIV among women attending ANC service observing ethical considerations for control and management purposes.

Method

A cross-sectional study based on WHO unlinked and anonymous strategy of HIV testing using questionnaires and Rapid HIV tests for detection of antibodies in serum/plasma, was employed from March 27th-April 27th 2009 to explore the prevalence of HIV among women attending anti natal care service in Jinka Zonal Hospital (JZH). The study subjects comprised consenting women attending ANC. The data was analyzed using Epi-info version 3.2.1.

Results

A total of sixty-seven (67) women participated in this study showing a 96% response rate of the clients. There were no statistically significant correlations between HIV sero-status and age, marital status, number of parity, educational status, residence and occupation. All women volunteers were tested for HIV antibody based on WHO testing strategy and were non-reactive for HIV antibody. This showed that the prevalence of HIV in women attending ANC clinic during study time was zero percent.

Conclusion:

These findings might arise from poor community uptake of the service including not getting skilled antenatal, delivery and postpartum care, high staff turnover and low motivation and staff not performing up to standard and due to limited study sites and duration of the study period. Poor record keeping and information management and every element of ANC including history taking, examination, pre-test counseling, sample collection, laboratory work, post test counseling, return visits and referral activities were done in one small room by one health personnel. This directly leads to clients' standing long in queue for service and loss of confidence possibly explaining why the majority of women in the study population came from rural areas only. Based on PMTCT data of Jinka Zonal Hospital, six women were registered ART clients before attending the ANC service thus questioning in-depth counseling on family planning to HIV-positive people with emphasis on long-term and permanent methods and dual protection.

Recommendations

The majority of women age group and parity in this study were support for that of a simulations and projections studied so far recommended the wide range of age group (15-24) rather than a five-year age groups and parity 0 and1 which enhances the ability of antenatal data to describe true trends. Provision of additional ANC rooms as well supportive supervision; ensuring that clients understand that confidentiality and privacy will be maintained; promoting family planning services and ANC services at all levels using locally acceptable and culturally sensitive approaches; facilitating and initiating the health posts and health centers which do not give PMTCT service

in order to have a referral system for focused ANC and clean and safe delivery as well PMTCT service establishment; service delivery and quality assessment being made an area of research priority in order to identify and take measures for better reproductive health activities and Involving local officials and community leaders, through social mobilization to ensure that other sectors such as agricultural extension workers, education workers, youth associations, women's associations, and PLWHA and health workers will all work to improve uptake of the service by the community. A longer study with a bigger sample size should be conducted in Jinka Zonal Hospital ANC clinic in order to get a better picture of the prevalence of HIV among pregnant women.

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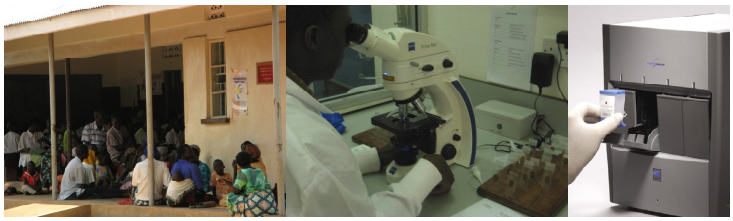

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42. The Prevalence of syphilis among newly diagnosed sero-positive HIV patients at TASO Mbarara

Author: Kyokushaba Judith
Mbarara University of Science and Technology

Background

Syphilis is one of sexually transmitted diseases (STDS), it has high incidence rate in most of the world despite of diagnostic and therapeutic advances that could render patients with STDs non infectious. Syphilis facilitates the transmission of Human Immunodeficiency Virus (HIV) infections. It also enhances the survival and replication of HIV in Urigenital track (Cheesebruogh…, 2000). Therefore its treatment has shown the reduction in the incidence of HIV transmission by 42% reduction (reported in study done in Tanzania following the introduction of syndromic STD treatment).HIV co-infection with HIV increases rapidly ulceration progression with earlier complication e.g. PID, neurosyphilis and patients respond less well to the treatment with the relapse. Syphilis is caused by the bacterium Treponema Palladium. Treponema palladium may either be acquired through sexual contact with an infected person or it may be congenital through mother to child (Forklink et al…1990) and even through contaminated sharp objects (Lorraine….1992). Treponema palladium causes syphilis by entering into the body through broken mucosa like epithelial layer and it is followed by multiplication preferably at site of entry provoking inflammation reactions. A genital or anorectal ulcers caused by syphilis may increase the risk of HIV transmission by about 30-fold thus this strongly suggests that people with STD'S especially syphilis are more likely to contract the HIV. But STDs enhance the infectivity with HIV and the susceptibility to HIV, by a factor varying with the disease stage (Cheesebruogh…. 2000).

Objectives

To determine the prevalence of syphilis among newly diagnosed sero-positive HIV patients in TASO Mbarara, To determine the proportion of newly diagnosed HIV positive people with syphilis, To determine the prevalence of syphilis by age and sex in sero - positive HIV patients

Methods

It was cross-sectional study which included 225 patients aged above 12 year and who were to be registered for care at TASO Mbarara. Blood was collected using plain tubes and serum was harvested after centrifugation. Rapid plasma reagin (RPR) was as screening method that detected the non specific antibodies of treponema palladium. The test measured antibodies (IgG and IgM) produced in response to lipoidal materials released from the spirochetes. Appositive test was confirmed using treponema palladium hemagglutination (TPHA) which detected specific antibodies against treponema palladium.

Results

Out 225 patients, 203 were negative for syphilis and 22 were positive for syphilis.
Among the HIV positive female clients, 9.4% had syphilis while among the HIV positive male clients, 10.3% had syphilis. Therefore 90.2% of the patients were negative for syphilis and 9.85 of the patients were positive for syphilis.
Conclusion
In conclusion, the prevalence of syphilis among newly diagnosed HIV patients at TASO Mbarara branch was 9.8%. The prevalence of syphilis for females was 9.4% and males had prevalence of syphilis as 10.3%. The males are more infected with syphilis than females. The prevalence of syphilis was twice more in females with in the age group of 20-29 and in males with in the age group 30-39 (F:M,2:1 and M:F,2:1 respectively).

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18. Mr. Guma Gaspar

UGANDAN MEDICAL LAB GAINS INTERNATIONAL RECOGNITION

The MU-JHU/IDI Core Laboratory is a Makerere University medical research laboratory, managed by MU-JHU (Makerere University-John Hopkins University) in collaboration with the Infectious Diseases Institute (IDI). It was recently re-accredited by the College of American Pathologists (CAP). The laboratory is located in the New Mulago Hospital Complex, on the second floor of IDI. It offers a range of state-of-the-art equipment for diagnostic tests in Chemistry, Hematology, Microscopy, Serology, Flow-Cytometry, Urinalysis and Molecular Pathology CAP is widely considered to be the leader in laboratory quality assurance. Mr. Ali Elbireer, the Core Laboratory Administrative Director, described the importance of this accreditation in the following way: *"The accreditation of the lab is very exceptional because passing the CAP inspection means that a laboratory has proven that it meets or exceeds United States federal quality standards. This is certainly a great accomplishment not only for this laboratory but also a testament to the professional excellence of the Ugandan medical technologists and technicians."*

"This Ugandan research/clinical laboratory was founded on Mulago Hospital grounds, over 20 years ago, by a group of Ugandan & American physicians led by *Dr. Brooks Jackson from JHU, and Dr. Edward Mbidde (now Head of the Uganda Viruses Research Institute)*. Thirteen years later, in 2003, the laboratory managed to gain international CAP accreditation; at that time it was the first CAP accredited laboratory in Western, Eastern, Northern and Central Africa," said Mr. Gad Bihabwa, the Core Laboratory Manager.

The *CAP Laboratory Accreditation Program is considered the gold standard* for laboratory accreditation in the USA, and is the only internationally recognized program that utilizes teams of practicing laboratory professionals as inspectors. Designed to go well

beyond regulatory compliance, the program helps laboratories achieve the highest standards of excellence to positively impact patient care. The CAP program also helps improve patient safety, by advancing the quality of laboratory services through education, and ensuring that laboratories meet or exceed regulatory requirements.

The laboratory CAP Inspection was conducted on June 12th and was led by Professor Peter Hownatiz from the New York Medical Center University Hospital in the United States. In a summation meeting, attended by Prof. Jackson (Laboratory Medical Director), Mr. Elbireer, Mr. Bihabwa and members of the lab management team, the inspector announced the results of the inspection in each area of the lab and wrapped-up with the final outcome that the MU-JHU/IDI Core Laboratory had ZERO citations and one recommendation. (Zero citations means that there were no errors or violations found.)

During the inspection's initial and summation meetings, Prof. Hownatiz commented that:
"During my thirty year career, since 1976, as a pathologist and CAP inspector, I have never inspected a lab with zero citations in a previous inspection, like the Core Lab with zero citations during the previous CAP inspection in 2007. Also, I have never inspected any lab and did not find any citation, including my own lab. So, this is a first for me as well."
At the end of the visit, Prof. Hownatiz thanked the laboratory management team for outstanding laboratory operations and processes and praised the staff's dedication, technical knowledge, and overall commitment to quality and patient care.

Mr. Elbireer is very optimistic about the future of medical laboratories in Uganda and he believes that, within a few years, the need for Ugandans to send diagnostic tests abroad will be rare. This will be because of the high caliber of Ugandan laboratory professionals, coupled with Ministry of Health efforts to create a national laboratory policy that will regulate laboratory service nationwide, and encourage laboratory professionals to follows diagnostic quality practice and Good Laboratory Practices (GLP) guidelines that will ensure patient safety and improve healthcare practice. b and wrapped-up with the final outcome that the MU-JHU/IDI Core Laboratory had ZERO citations and one recommendation. (Zero citations means that there were no errors or violations found).

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DID YOU KNOW???

DID YOU KNOW THAT THE LONGEST PLACE NAME IN THE WORLD IS IN UGANDA!

By Simon Peter Rugera

Websites had traditionally allowed only 28 letters without hyphenation but when it emerged that there were words that could be longer than this, rules were bent. The first to be recognized as having more than these letters was a small village in Wales, later New Zealand and later on Thailand. Probably we shall discover one in Uganda tomorrow! Read on WALES boasts a village called Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch (58 letters), which in English means "Saint Mary's Church in the hollow of white hazel near a rapid whirlpool and the Church of Saint Tysilio near the red cave." The locals call it Llanfairpwll (pronounced thlan vire puth). The name of this world-famous station and village was created in the early 19th century by a local humourist.

NEW ZEALAND stakes its claim on the Maori name for a hill near Porangahau (New Zealand's South Island), Hawkes Bay, which is spelt with either 85 or 92 letters. The hill used to be called Taumatawhakatangihangakoauauotamateaturipukakapikimaunga horonukupokaiwhenuakitanatahu (85 letters). That's a combination of the words taumata (brow of a hill), whakatangihanga (music making), koauau (flute), o (of), tamatea (name of a famous chief), turi pukaka (bony knees), piki maunga (climbing a mountain), horo (slip), nuku (move), pokai whenua (widely travelled), ki (to), tana (his), tahu (beloved).
Tetaumatawhakatangihangakoauaotamateaurehaeaturipukapihimaungahoronuku pokaiwhenuaakitanarahu, officially entered in the Guinness Book of Records." That stretches the name to 92 letters.

It says the name means "The place where Tamatea, the man with the big knees, who slid, climbed, and swallowed mountains, known as land eater, played his flute to his loved one."
THAILAND. Bangkok is a city of extremes and superlatives and recently declared the world's hottest city by the World Meteorological Organization. It also boasts the world's longest name:
Krung-thep-maha-nakorn-boworn-ratana-kosin-mahintar-ayudhya-amaha-dilok-pop-noparatana-rajthani-burirom-udom-rajniwes-mahasat-arn-amorn-pimarn- avatar-satit- sakattiyavisanukam.
"Not surprisingly, only a handful of Thais can remember such a mouthful, although the abbreviated translation of the whole is a relatively brief Jewelled city of the god Indra. However, most Thais simply refer to it as Krung Thep, City Angels."

We sought a ruling from a Bangkok wordsmith, Theppitak Karoonboonyanan who said the correct spelling (163 letters) is Krungthepmahanakornamornratanakosinmahintarayutthayamahadilokphopnopparatrajathaniburiromudomrajaniwesmahasatharnamornphimarnavatarnsathitsakkattiyavisanukamprasit.

Theppitak separated the words of K161t and translated them as:
rungthep mahanakorn
The great city of angels,
amorn rattanakosin mahintara yutthaya mahadilok phop
the supreme unconqueralble land of the great immortal divinity (Indra),
noparat rajathani burirom
the royal capital of nine noble gems, the pleasant city,
udomrajaniwes mahasatharn
with plenty of grand royal palaces,
amorn phimarn avatarnsathit
and divine paradises for the reincarnated deity (Vishnu),
sakkatattiya visanukam prasit
given by Indra and created by the god of crafting (Visnukarma).

"The name of the city was given by King Rama 1, the founder of the city, to celebrate the new capital, 219 years ago, after Sukhothai, Ayudhaya, and Thonburi. He moved the capital of the country from Thonburi to a place called Bangkok at that time, and named the new capital as rungthepmahanakhorn. The name has been changed a little by King Rama 4 (King Mongkut) which has been used until now.

So for Ugandans who live in Kisoro, you are outwitted since you knew Serupyimpyinurimpyisi was the longest! But who knows, the next may be found along the Nile. Watch out for the next issue of our newsletter.

References:

1. **Thailand Has World's Longest Place Name by** By Eric Shackle: http://www.thailandlife.com/ericshackle/placename.html Accessed 19 October 2009
2. http://www.walestourism.uk.com
3. http://llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch.co.uk/
4. Kisoro folk stories: Being composed

THE YEAR 2008/09 FOR THE UMLTA

The team from UMLTA consisting of the President and Vice President visited The Core Laboratory at Infectious Disease Institute at the Makerere University college of Health Sciences. The whole group is in a jovial mood celebrating the success of the the Laboratory in being the only one in Uganda accredited by College of American Pathology (CAP). UMLTA is an advocate of excellence.

L-R: Mr Aliber, Mr. SP Rugera, Mr Patrick Karugaba, Mr Rudolf Buga and Mr Gad Bihabwa stand infront of the award excellence to the Core Laboratory by CAP. UMLTA congratultes The Core Laboratory at

IDI for the award of excellence!
L-R: The Federation of East African Associations for Medical Laboratory Scientists (FEAMLS) chief executives: President (Mr Simon Peter Rugera) and Vice President (Mr Moses Lorre) at the lobby of the Kenyatta International Conference Centre (KICC) while attending the East African Community Health Scientific Conference in March 2009. UMLTA has positioned itself regionally and globally. It's a member of FEAMLS, Federation of African Associations for Medical Laboratory Scientists (FAAMLS) headquartered at Yaounde, Cameroon

and International Association for Medical Laboratory Science (IFBLS) headquatered in Canada.
L-R: Mr. Godfrrey Mujuzi (Assistant General Secretary, UMLTA), Mr. Simon Peter Rugera (President, UMLTA), Mr. Patrick Ogwok (General Secretary, UMLTA), Hon. Dr Stephen Mallinga, MP (Minister of Health) and Mr, Francis Mumbowa (Editor, UMLTA) pose for a group photograph with the Minister of Health after a dialogue meeting at the MoH. The ministry of health is the major stakeholder of UMLTA and both are willing to work together to improve laboratory services in Uganda.

The Minister of State for Health (Primary Healthcare) Hon. James Kakoza answering questions from journalists (not in picture) after the launch of the National Health Laboratory Services policy at Imperial Royale Hotel 0n 24/09/2009. On his immediate left is the WHO Uganda Country representative and on the right is the Chief Executive of Foundation for Innovative New Diagnostics (FIND) and the Director of the National Chemotherapeutics Laboratory of Ministry of Health. FIND co-funded the development of the policy. It is envisaged the ushering in of the policy will go along to improve laboratory services if the implementation strategy is well articulated. UMLTA was part of the policy formulation.

The General Secretary and the President UMLTA pose for a photograph with part of the BBLT students after addressing them on salient issues of students collaboration with UMLTA. The coordinator of the BBLT programme Dr Samuel Majalija is middle behind the 'Hajji'.

The General Secretary and President of UMLTA (5th & 6th standing front row from left) pose for a group photograph with the Principal (Mr Sam Kabengera 7th standing front row) and staff and students of School of Medical Laboratory Technology Mulago. This was on a fact finding mission on quality of training for medical laboratory professionals. The UMLTA is an interested party in the way training is conducted as one of its constitution Mandate.

The team that is developing the National Health Laboratory Strategic Plan poses for a photograph at the Nile Resort Hotel in July 2009. The UMLTA is fully participating in this major agenda and was also represented at the development of the National Health Laboratory Policy that was launched by the Minister of Health this year. Protecting and promoting the interests of the Medical Laboratory Profession and Practice is at the forefront on the UMLTA menu.

A meeting of Allied Health Professional Associations of the East Africa Community states that was held at the Kenyatta International Conference Centre in March 2009. Left in white with blue strips is the UMLTA President. To his right in black is the Uganda Radiographers Association representative Mr. Mpiima Patrick (currently the Deputy Registrar Allied Health Professionals Council). To his left is the NATIONAL

Chairman of Association of Kenya Medical LABORATORY Scientific Officers (Mr. Moses Lorre). The meeting was chaired by Mr Laban Onono, the Chairperson of the Allied Health Professional Associations Forum (in white with back to camera)

The UMLTA President addressing students of the Bachelor of Biomedical Laboratory Technology programme at Faculty of Veterinary Medicine, Makerere University. Mentoring and sensitisation of students will help build a committed workforce for the future.

The General Secretary addressing BBLT students at Faculty of Veterinary Medicine Makerere University. On his left is the President UMLTA Mr Simon Peter Rugera and the President of the Makerere University Biomedical Laboratory Technology Students Association Mr. Sharif Tusubira.

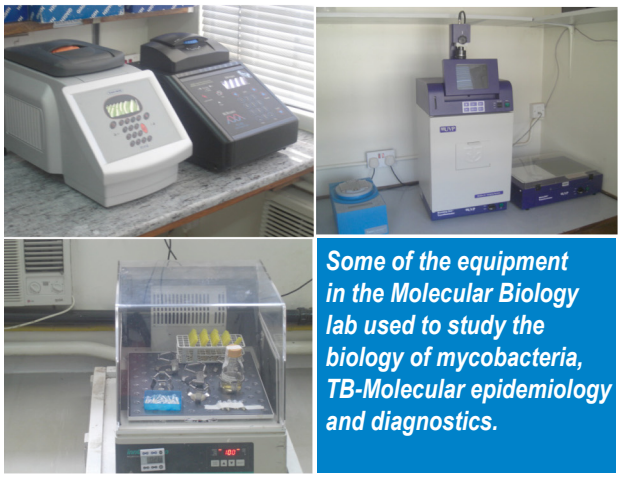
Core Laboratory listening attentively to the President UMLTA (below) at a sensitisation meeting. UMLTA is on a sensitisation drive and started with this Laboratory. Membership is maintained and improved with continued sensitisation about UMLTA activities.

Mr Patrick Karugaba the Quality Assurance Manager at Core Laboratory (IDI) introduces the UMLTA team before the sensitisation address on 08/10/2009. Various issues were discussed and all staff pledged to register with UMLTA.

State of the art laboratories and services at the Makerere College of Health Sciences

The department of Medical Microbiology expanded to include new laboratories. As of now, activities in the department are in six inter-dependent laboratories. The department has a website where more information can be obtained (www.mbl.mak.ac.ug)

- **The Molecular Biology Laboratory**
  This lab deals mainly in basic infectious disease research, molecular epidemiology and development or application of molecular diagnostics as related to infectious diseases, especially tuberculosis, HIV and malaria.



Some of the equipment in the Molecular Biology lab used to study the biology of mycobacteria, TB-Molecular epidemiology and diagnostics.

- **The Serology and Immunology Laboratory**
  In this laboratory, serological and immunological studies in infectious diseases, mainly HIV/AIDS, Malaria and TB are done.

Some of the equipment in the immunology lab used in HIV, Herpes and Treponema Serology.

- **The BSL3 Mycobacteriology laboratory**
  This is the first laboratory of its kind in the region, and is used for liquid and solid culture of TB bacilli, molecular studies of TB infections and Drug susceptibility testing.

Bactec MGIT equipment used in the department to detect multi-drug resistant TB bacilli

- **The Clinical Microbiology Laboratory:**
  The Clinical Microbiology laboratory processes clinical specimens and carries out microbiological investigations.

Some of the equipment used in clinical microbiology lab.

- **The Mycology Laboratory:**
  The Mycology Laboratory emphasizes proper training of the important fungal infections as well as routine clinical investigations and research.

Class II bio-safety Cabinet and a fluorescent microscope used in the mycology laboratory.

Academic Programs offered in the department of medical microbiology

Undergraduate programs

Medical Microbiology is covered in the PBL Curriculum under the several undergraduate courses visit the university website for details (www.med.mak.ac.ug)

Graduate programs

Master of Medicine (Microbiology)

The master of medicine degree is offered to clinicians who wish to specialize as consultants in clinical microbiology. Uganda has only 5 qualified microbiologists and many more are still needed.
Please visit the graduate school to see application procedure. Scholarships are available to admitted candidates.

In addition to the above academic programs, the department of medical microbiology offers training courses in the following areas:

- Applied and Molecular Diagnostics
- Diagnostic Immunology
- Good Clinical and Laboratory Practices (GCLP/GCP)

These short courses are run every July and applications are available online (www.mbl.mak.ac.ug). Certificates are provided.

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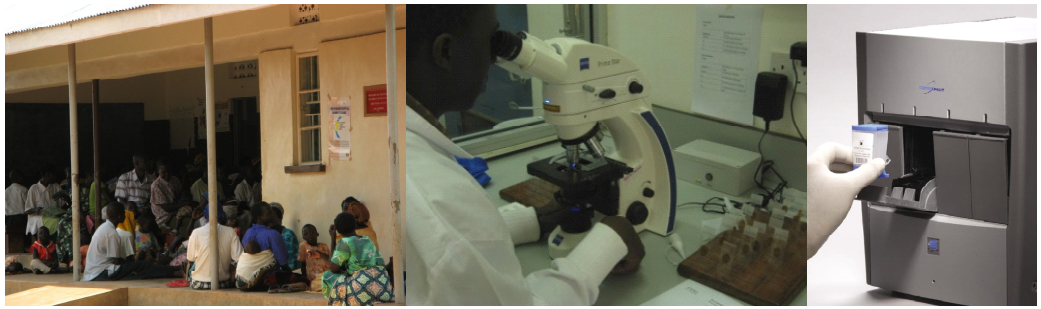
FIND (FOUNDATION FOR INNOVATIVE NEW DIAGNOSTICS)



FIND Tuberculosis Research Laboratory, National TB Reference Laboratory, Wangegaya

foundation for innovative new diagnostics

Our vision *is of a world where everyone will have equitable access to high quality diagnosis*

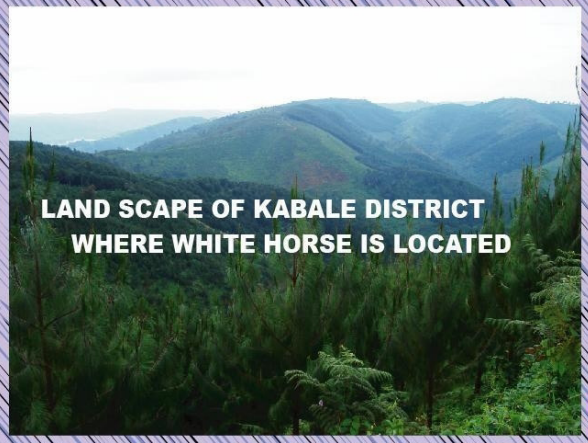
FIND in Uganda:
Tuberculosis Diagnostics Research Programme
Malaria Diagnostics – generating evidence for scale up of rapid diagnostic tests (RDTs)
Laboratory systems strengthening and integrated laboratory systems

Our mission *is to drive the development and implementation of accurate and affordable diagnostic tests that are appropriate to patient care in low-resource settings*

FIND. 45B/47A Lumumba Ave, Nakasero, Kampala, Uganda. Tel. +256 312 265 992/3.www.finddiagnostics.org

CONFERENCE ANNOUNCEMENT

27TH SCIENTIFIC CONFERENCE OF UGANDA MEDICAL LABORATORY TECHNOLOGY ASSOCIATION IN CONJUNCTION WITH FEDERATION OF EAST AFRICAN ASSOCIATIONS OF MEDICAL LABORATORY SCIENTISTS



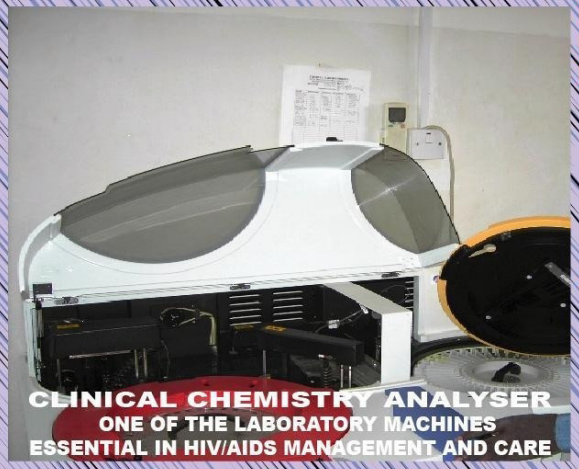
DATE: THURSDAY 19TH - SATURDAY 21ST NOVEMBER 2009

VENUE: WHITE HORSE HOTEL - KABALE, SOUTH WESTERN UGANDA

THEME: "Challenges of HIV / AIDS, Emerging and Re-emerging Diseases to Medical Laboratory Practice"

SUB-THEMES

- HIV-TB Co-infection
- Laboratory and ART management
- Diagnostic challenges in HIV / AIDS
- Quality of care in HIV / AIDS
- Laboratory management and HIV / AIDS
- Emerging / re-emerging diseases and HIV / AIDS
- Molecular biology of HIV and emerging / re-emerging diseases
- Laboratory training and HIV / AIDS management & Care
- Health sector reform and HIV / AIDS
- Laboratory equipment and HIV / AIDS management
- HIV / AIDS and blood transfusion services



The Conference fees

UMLTA and FEAMLS members:	UG. SHS	50,000=
Ugandan Students:	UG. SHS	20,000=
International:	US$	50

Registration before Or on 30th September 2009 will be subsidised by up to 20%

Send Abstracts, Preferably Electronic copies, to reach the following addresses before 30th September, 2009

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Conference Announcement

The Uganda Medical Laboratory Technology Associaion wish to inform the conference delegates that the next Conference is scheduled to tale place in November 2010 in Gulu district, Details will be posted to our website later.

We look forward to seeing you there.