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NATIONAL MANAGEMENT COUNCIL , 2016-19,

IFBLS
International Federation of
Biomedical Laboratory Science

November 8, 2017

Dear Mr. Manindra Chaudhuri,
Chairman of Organizing Committee
All India Institute of Medical Technologists

On behalf of the International Federation of Biomedical Laboratory Science (IFBLS) it gives me great pleasure to congratulate you on the Silver Jubilee National Congress of Biomedical Laboratory Science, taking place in Kolkata 9th and 10th December 2017.

Meetings such as your Congress contribute to highlighting the important role Biomedical Laboratory Scientist play in today's health care delivery systems, and your theme "Medical Technologists/Biomedical Laboratory Scientists are the back bone of Laboratory Medicine" is very much in line with this.

The scientific program that has been created for your Silver Jubilee National Congress will address important issues related to the important role played by Medical Technologists/Biomedical Laboratory Scientists in the fast development of Laboratory Medicine.

As President of the International Federation of Biomedical Laboratory Science, I am honored to be an invited guest at your conference and I look very much forward to attending, addressing and meeting all the delegates at this very important 25-year landmark in your history.

On behalf of the IFBLS Board of Directors, I wish you and your delegates a very successful Congress.

Best regards

Marie Nora Roald
President
IFBLS

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EDITORIAL

Dr.Ananda Samanta

M.Sc.Med.Tech.(PGIME&R, Chandigarh), Ph.D. (cu)

To Say a few words from trhe desk of editor of “Medical Technology” is an opportunity for me. There are very few regularly published Joumals in India for this subject. Amongst those ours is the premier one. I like to thank the organisers of aiimt and specially the president, Mr. Manindra Chaudhuri who has contributed all of his life time efforts with the dream for it’s sustainability. For the development of Biomedical Laboratory science in our country AIIMT has prooved its identity as chronological evidence of movement. We expressed our proposal, apeal to the authority either to the state or to the national level in respect of higher professional education, better employment and above all the best patient care services. Now medical Technology has become an essential subject and part of medical practice.

Few words to mention on the eve of the begining of W.B. allied health and paramedical council. Govt. recognised diploma level paramedical courses are running in various Govemment and Non Govemment Institutions under the aegis of the state Medical faculty of West Bengal. It is unfortunate to mention that there is not even a single teacher recruited for the said diploma courses in government institutions. This picture reflects the intention and attitude of negligence of the administration for the development of paramedics and their services in the state. Again my apeal to the council for creation of better scope in education and service without which bettter patient care services would be difficult to accomplish.

Roll of biomedical scientists/technologists have been sincerely recognised globally in the era of automation in laboratory Medicine. If we iognore them in our country, ultimately that will be the cause of remaining lagging behind from updatation of the profession. So it is the right time to touch the intemational wave of health sciences. Hope, Universities, corporate houses should play their active roll in this aspect for nation building and service to the humanity.

It is expected that students, faculties, technologists will be encouraged with their published articles for scienctiflc works. Participation of renowned scientists, authors, are most welcome. My sincere gratitude for the contributors like authors, advertisers, printers and my counter parts of editorial board. Without their active support timely publication would have been unachievable.

Thanks to all with this expectation that history will give this honest endeavour a minute space for future advanced patients care to the mankind.

KEY NOTE ADDRESS

Dr.Baladev Das

*M.Sc.Med.Tech.,M.Phil,Ph.D.**

It is a great opportunity for me to address such gathering of intellect technocrats from across our country in the presence of such respected personalities of dignitaries to grace this auspicious occasion.

As I have been honoured to deliver the key note address of this conference of the Medical Technologists/Biomedical Laboratory Scientists I shall cover the need of the hour for Medical Technologist of our country only.

Central Regulatory Body a council for technical personnel in India can bring the dignity, respect, better means of life and ability to drive the health care service of our country to its expected level. We must appreciate that our beloved and respected Chief Minister took the initiative to create a council in our state of West Bengal. We are eagerly waiting for its functioning and to get paramedics enrolled with the same. Council should establish the need to upgrade the education with graduation, post graduation and doctoral level. The qualified paramedics then can be such educated that they can handle the investigations independently and generate quality reports to provide better patient care services. To strengthen the same in the peripheral health care facilities the qualified technologists are to be authorized to sign the report generated by themselves independently. Our Endeavour at this conference cum scientific seminar is to spread and diffuse this message across our country.

JIPMER (Puducherry), PGIME&R(Chandigarh), AIIMS(Delhi & Elswhere), SGPGI (Lucknow) and many other Central and Sate Govt. and private institutions under central & state universities are running undergraduate , Postgraduate and doctoral courses throughout the country. Our request to the Govt. of West Bengal is to start such courses by establishing government paramedical institutions.

We pay our gratitude to those private entrepreneurs who established such institution on their own under the recognition of the Govt. universities. Large corporate sector houses are requested to come forward to establish such institution or fund other private entrepreneurs to run such courses at the advanced levels.

Indian Institute of Science, Bangalore may act as an inspiration for such corporate houses. Mr. Jamshedji Tata was inspired by Swami Vivekananda to start the then IISc, Bangalore in the year 1909, the nation's pride now a deemed University. Hope our appeal will initiate the Government activities in respect of proper utilization of medical technologists to serve the ailing population of the country.

At the end I remain thankful to all respected dignitaries for their valuable time devoted for our cause. Thanks to all the participants and organizing members also.

**Sevayatan School of Medical Technology, Singur, Hooghly, W.B.*

SILVER JUBILEE CONGRESS OF AIIMT

Manindra Chaudhuri

Chairman, Organising Committee

We are celebrating Silver Jubilee Congress of Biomedical laboratory science. Twenty five years is a long time. There are lots of changes in the society in respect of politics, economy, culture, science and technology etc. But revolutionary changes occurred in the field of Laboratory Medicine in the health care sector. Twenty five years back we were using Sahlis comparator for estimation of Haemoglobin, Folin-Wu method for blood sugar estimation, Flame photometer, colorimeter which we have dumped in the cold storage. We are now using Autoanalyser or semi auto analyser for analysis of body fluids. And wide range of parameter is done within a very short time. Ordinary X-Ray is replaced by digital X-Ray, MRI, CT scan, USG etc. Estimation time has been reduced from number of days to minutes and hours only.

Nomenclature of the profession has changed from Laboratory Assistants to Medical Laboratory Technologists to Biomedical Laboratory Scientists. Non-formal education to Diploma, Degree, Masters degree and Doctoral degree in Biomedical Laboratory science from Health universities.

We welcome all these changes. But we regret for the slow development of the professional status of the medical technologists. Till now, a group of health administrators are not willing to recognise the important role of Medical Technologists. As such, they decline to allow the highly qualified technologists like Graduates, Masters even Doctoral degree holder Technologists to take independent decesion and signing the report they generated for validity.

Root cause of these misunderstading is the absence of statutory body (council) for the profession. We congratulate both the Central and State Government for taking initiative to introduce Medical Technology Council. But the progress is very slow because the cart is pulled by the unwilling horses. The council should be formed by the professional people who understand their profession better than the other professionals (doctors).

The objectives of the congress will be successful if the challenges are carefully considered by the Health Authorities.

ANTIMICROBIAL ACTIVITY OF TODDALIA ASIATICA (L.) LAM.

Prudence Elizabeth

MSc., M.Phil., DMLT,

Annai Theresa Bio Medical Training and Research Centre (Trichy)

Introduction

Herbal medicines are gaining priorities in treating various health ailments of diverse origin. Man since time immemorial has been using plants as drugs to cure diseases. Before the inventions of the modern synthetic medicines man's dependence was totally on plants. The glory and fame of the traditional plant based medicinal practices still exist because of their desirable factors as additional alternative therapy for various ailments.

Treatment of various health ailments such as inflammation arthritis, hyperlipedemia, diabetes, ant fertility (GUPTA, 1994) etc., with medicinal plants have been experimentally proved. A large number of Indian plants has been screened for biological activity by Central Drug Research Institute (CDRI) Lucknow, India and has been repotted to contain diverse active principles wint disease curing potentials (Dhawan et al.,1977: Bhakuni et al., 1988).

Materials and Methods:-

Materials : The plant materials were collected from the banks of river Cauvery, Tiruchirappalli. The plant material were collected in the month of December, January, The plant specimens were verified with the Rapinat Herbarium, St.Joseph's College (Autonomous), Tiruchirappalli - 620 002, Tamil Nadu, India.

The important stages in the experimental work includes first isolation of the chemical substances from the chosen plant and secondly the characterization of those isolated compounds. The isolation includes the plant collection, extraction, chromatographic separation etc. The Characterization involves study of qualitative chemical analysis, spectroscopic studies on the compounds in order to know the exact structural details. The in vitro study aims with the preparation of the micro solution, the medium and the determination of minimal inhibitory concentration.

Qualitative Analysis :-

Ethanol extract obtained was used to carry out Qualitative analysis as per Brindha et al. (1981) method in order to partially identify the components that may be present in the corresponding extract. After carrying out each test as per Brindha et al. method the ethanol extract showed the presence to Alkaloids, Sugars, Phenols, Catechins and Saponins (Brindha Sasikala and Pursoathaman, 1981).

Separation of the Plant Constituents by Chromatographic Method (Kokate, 1994; Harborne, 1973)

Macro Thin Layer Chromatography. When a mixture of compounds is spotted on TLC plate, the compound which is readily soluble and not strongly adsorbed moves up along with the solvent. Those which are insoluble or sparingly soluble or more strongly adsorbed, moves up less readily leading to the separation of the compound.

Chromatography Conditions.

The aicoholic extract was subjected to HPLC study which was carried out at SPIC Limited, Chennai. The instrument used was Shimadzc Class VP 5.03. The extract was found to show different components when it was run in a column Hyper Sil ODS 5 -C-18 (300 x 4.6 mm) with the buffer 100-50% H2O and 50% acetonitrile.

Antibacterial activity of Toddalia asiatica :-

Disc Diffusion method : The plant extracts were tested for antibacterial activity in the disc diffusion method using following strains of bacterial species namely Proteus vulgaris, Enterobacter faecalis and Serratia marcescens. For this organism was poured and equally distributed with the help of L rod into all sterilized petridishes separately. About 20 ml of material agar was aspectically poured into the plates. The plates were allowed for Solidification.

Inoculated plates were incubated at 28 2o C for 24 hrs. Isolation and identification of the bacteria was subsequently done to study the antibacterial of Toddalia asiatica.

Streak Plate Method : Five petriplates nutrients agar medium were exposed in the laboratory. The duration of exposure was for 1-3 seconds. Exposed plants were incubated at 28 2o C for two days. Isolation and identification of the bacteria were subsequently done to study the antibacterial activity of Toddalia asiatica.

Results and discussion Separation by HPLC

The ethanol extract of Toddalia asiatica was separated by HPLC using the column Hypersil ODS 5 – c – 18 300 x 4.6 mm. It was seen that the separation at UV 225 nm was as follows (Fig.3, 3a; Table 4):

Two components were found to be separated prominently at a major proportion.

Four components separated at a medium level.

Several other components at a minor proportion, as shown in the report.

Antibacterial Activity: -

Results from our analysis showed that the study cleared the efficiency of antibacterial activity is due to the presence of biological Principles.

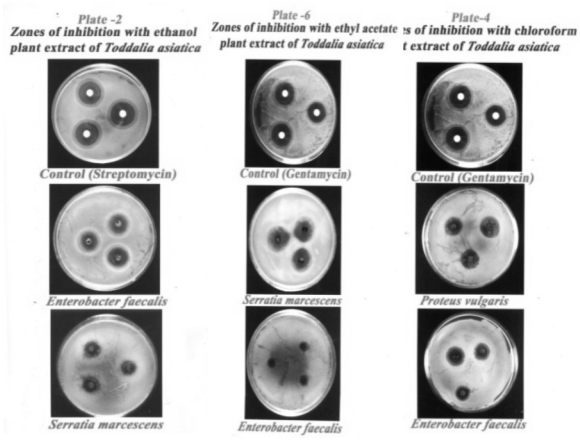
The Antimicrobial activity of T.asiatica whole plant extracts and their potency was determined using the disc diffusion method by measuring the diameter of growth inhibition zones and growth variation of bacteria with plant extracts.

The results revealed that the ethanol extract showed

significant activity

against Enterobacter faecalis, chloroform extract showed significant activity against Proteus Vulgaris and ethylacetate extract showed significant activity against Serratia marcescens.

The results showed that the gradual suppression of growth of Proteus Vulgaris, Enterobacter faecalis, and Serratia marcescens was exhibited by increasing concentration of ethanolic, Chloroform and ethyl acetate extract.



Summary and conclusion IV

1. *On Subjecting the extract for HPLC separation two compounds were separated at a major proportion which resembles that of Rhein and Emodin.*
2. *This plant is found to possess a bacterio static effect and this was exhibited by the presence of zone formation.*
3. *Ethanolic extract, chloroform extract and ethyl acetate extract showed the presence of antibacterial activity when tested against the organisms like Proteus vulgaris, Enterobacter faecalis and Serratia marcescens.*

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Abstract

LEUKEMIA

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Leukemia is cancer of the blood cells that is immature blood cells become cancer. These cells do not work they should and they crowd Out the healthy blood cell in the bone marrow. Different types of leukemia depend on the type of blood cell that becomes cancer Leukemia occurs most often in adults older than 55 years ,but it is also the most common cancer in children younger than 15 years.The Treatment and prognosis for leukemia depend on the type of blood cell affected and whether the leukemia is acute or chronic which is fast or slower growing process. Chronic lymphytic leukemia and its variants as well as its lymph node counterpart,small lymphocytic Lymphoma. The role of well-establised and more experimental immunophenotypic and molecular biomarkers in predicting outcome and Need for treatment in CLL/SLL is summarized.Tobacco products are the single,major avoidable cause of cancer. Smoking is also causally associated with cancer of the pancreas, kidney, bladder, stomach, and cervix and with myeloid leukemia. Proliferation of abnormal, Undeveloped WBCs dignosed by blood tests and bone marrow biopsy.

SEASONAL PATTERN OF FLU AMONG BOATMEN IN VARANASI, INDIA

Sushrima Gan, Laeek Ahemad Siddiqui and Ravi Prakash Jha

International Institute for Population Sciences (IIPS), Mumbai

INTRODUCTION

Varanasi is considered one of the oldest cities in the world. From Varuna river and Assi Ghat, it is also known as Banaras or Kashi. It is a north Indian city on the banks of river Ganges in Uttar Pradesh, India. The spiritual capital of India, is the holiest of the seven sacred cities. Tourism in Varanasi is one of the most important industries. Over 3 million domestic and 200000 foreign tourist visit annually, most commonly for religious purposes. The peak tourist season falls between October and March. Due to very large tourist visitors, a prominent occupation in this city is that of the Boatmen. But sadly, these people who lead a very hard life, suffer from various kinds of illnesses. This may be due to their lifestyle, working hours, area of work or type of boat or other such factors.

There are more than 108 Ghats in which area is divided for each boatmen regarding the pickup point of tourists for boat rides. Morning boat ride on the Ganges across the Ghats is a popular visitor's attraction. Thus an effort was made to study the morbidity pattern of the Boatmen of Varanasi.

METHODS

Primary data was collected. The present work is a cross-sectional retrospective study that analyses data collected on the boatmen in Varanasi during a 2 months period(January- March 2016). Sample was collected by the purposive and convenience sampling method. The boatmen who were unable to speak Hindi or didn't have sufficient time were excluded from the study. A schedule was prepared with a personal information section and section regarding details of profession and Morbidity related questions. Data was collected after receiving informed consent from the boatmen. A pilot survey was carried out where 10 cases were selected and prevalenceof flu was found out to be 15%. Level of significance was taken as 0.95 and the required sample size was calculated as 164. After collection of primary raw data the data were fed in SPSS for the purpose of analysis.

Descriptive statistics were used to assess socio-demographic characteristics and chisquare test was used to detect association. The analysis was performed using (i) Occurrence of Morbidity as outcome variable. (ii) Hours of Work, Area, Type of Boat, Habits etc. as independent variables. Analyses were carried out using SPSS 20.0 software-P<0.05 were considered statistically significant. Ethical approval was not required because the study was based on data routinely collected and stored and kept strictly confidential.

RESULTS

Main Findings of the Study: Out of all the surveyed boatmen 17.1% were found to be belonging to the age group 10-20,41.5% between 21-30, 18.3% between 31-40 years, 8.5% between 41-50 years and 7.3% each in 51-60 and 60 and above age groups respectively. 52.4% belonged to the caste Sahni. 69.5% of them earned between Rs.2000-5000 per month from this profession. Only some of them had other sources of income like painting and working in saree factories especially during the Monsoon season when rowing with tourists is not permitted by law. 40.2% of the boatmen rowed for 3-4 hours daily. It was also found that 74.4% have hand driven boats and rest motor boats and 48.8% said they faced difficulties during work 36.6% faced some kind of illness due to profession.

Most of them suffered from common cold and flu very often and this percentage was found to 56.1%. Next most common was orthopaedic problems. Others suffered from diseases like dengue, filaria, and pneumonia. Most of the boatmen who were using motor boats were found to be having breathing troubles. 36.6% suffered every month with a large percentage suffering during summers (41.5%). In the group of boatmen who had hand driven boats, 31.0% suffered every month, and 32.8% suffered once in 6 months. In the group of boatmen who had motor boats, 63.2% suffered every month, 21.1% suffered once in 6 months and 15.8% suffered very rarely. The value of Chi-Square is 0.042 < 0.05, so it significant. Therefore we conclude that type of boat depends on how often a person suffers.

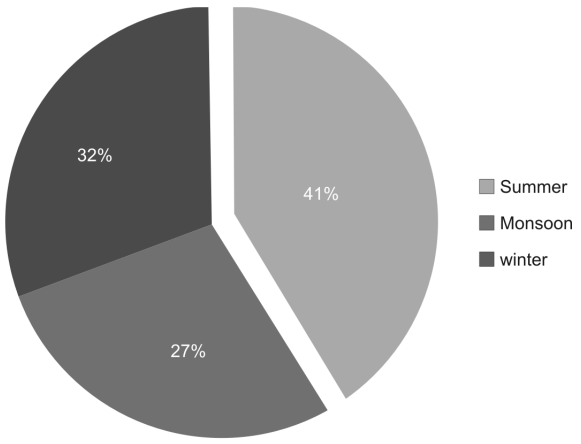

Figure : Pie Chart depicting the seasonal pattern of flu.

DISCUSSION

Boatmen who had motor driven boats suffered the most due to profession (60%). The most common illness from which boatmen suffered were due to common cold and flu. Boatmen who worked in the area of Dashashamedh Ghat and Assi Ghat belonged to higher income groups than the boatmen who worked on other Ghats. Majority of the boatmen were found to suffer during the Summer season. Some of them came up with valuable suggestions regarding what steps should be taken to make their profession better and what problems they faced. Most of the boatmen who had hand driven boats, were found to be more fit as they considered this as a healthy exercise. Boatmen with motor boats complained that due to pollution and accumulation 41% 27% 32% Summer Monsoon winter of plastic down the river, often dirt gets stuck in the motor and they have to get down in the water to fix the problem and remain wet in the boat until they reached the destination. This activity makes them suffer from flu and viral fever very often. Morbidity pattern did not depend on the area of work. Most boatmen suffered during the summer season and went to local doctors for treatment. There is statistically significant association between type of boat and morbidity among boatmen and also type of boat and how often a boatmen suffered. So poor is their health and economic conditions that only 9% said they wanted their next generation to continue in the

same profession 25.6% wanted provision made for loans from the government, 43.9% said they wanted to be paid workers in the Ghats, 29.3% wanted other help.

LIMITATIONS OF THE STUDY Psychiatric disorders were not recorded in the study.

SCIENTIFIC ABSTRACTS.

Dr. Bechan Prasad Kharwar.

BAMS, BPT,DNYS.

CCHM- IMS (BHU)MHC(AIIMS)MIMS(DELHI) Director, Jeevan Asha Institute. Mau . Utter Pradesh

Biomedical Research Management Education & Quality Assurance

Biomedical research is conducted for the purpose of systematically collecting and analyzing data from which generalized conclusions may be drawn that may aid in improving the care currently of unknown beneficiaries in the future . Since the sole source of data in such research pertains to the human subjects, the conduct of this research implicates a variety of ethical concerns pertaining to values such as dignity, body integrity, autonomy and privacy of the subject.

Confidentiality means respecting a potential or current participant's right to be free from unauthorized release of information that the individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure. In the context of a research protocal ,'Confidentiality" refers to the understanding between the participant and investigator as to how participant information will be handled , managed , and disseminated (shared with others) as part of the research.

A breach of confidentiality violates an individual's rights and poses a risk of dignitary harm to the research participant, ranging from social embarrassment and shame, to stigmatization, and even damage to social and economic status.

Keeping in view the rights and welfare of the human research participants, these ethical concerns have been framed into a complex regulatory apparatus all over the world containing specific legal provisions concerning all such matters. All researchers face with the difficult challenges of protecting the privacy, confidentiality and safety of research participants.

SAVE THE ANTIBIOTICS

Sonchita Bagchi

a researcher at Uppsala University at the Department of Pharmaceutical Biosciences. PhD in Microbiology at the Department of Cell and Molecular Biology in Uppsala University.Sweden

Abstract: Antibiotics are a group of drugs used to treat infections caused by bacteria. Antibiotic resistance means that bacteria develop resistance to the drug. It is a serious and growing public health problem both in India and in the world. Antibiotic use is linked to both the origin and spread of resistance. Therefore, it is important that antibiotics are used rationally - only when needed and properly. Resistant bacteria can spread between humans, animals and the environment. In addition, bacteria can exchange resistance genes, which contribute to the spread of resistance. International epidemiological information on resistant bacterial strains and analysis of how they are disseminated in different healthcare environments and in society are required. In parallel with the efforts to preserve the effectiveness of existing antibiotics as long as possible, stimulation of research aimed at developing antibiotics with new mechanisms of action is also required.

CURRENT E-GOVERNANCE SCENARIO IN HEALTHCARE SECTOR OF INDIA

Inderjit Kaur, Ex Technical officer

University College of Medical Sciences, Delhi

Dr. Avneet Kaur

Assistant Professor, Satyawati College, Delhi

As India is one of the fastest developing countries in the world, it is important to improve the quality of our health maintenance management and preventive medical care to extend healthy life expectancy. Today's scenario for healthcare in Indian E governance is in the limit. As medical science is fast developing and information resource is pouring in, there is urgent need for dissemination knowledge by interlinking primary, secondary and tertiary level health centers by ICT applications. This will help health personal to deliver high quality services In order to realize better health maintenance and prevention of disease, we would like to prove that incorporating medicine, life, and work through the XML Web Services is highly effective. Most of the health information systems today are proprietary and often only serve one specific department within a healthcare institute resulting in difficult interoperability problems This makes it very difficult for clinicians to capture a complete clinical history of a patient. [1] In order to realize better health maintenance and prevention of disease, incorporating medicine, life, and work through the XML Web Services is highly effective.

The benefits of utilizing the XML Web Services are the following:[2]

1. It is platform independent therefore it is usable regardless of the type of hardware and software. The connection is highly flexible, collaborative, and compatible with other systems

2. It avoids overlapping investments of the ICT utilization and development and enables the sharing of the ICT sources

3. It offers more flexibility in data process and exchange.

Introducing Web services to the healthcare domain brings many advantages:

1. Web services allow for seamless integration of disparate applications representing different and, at times, competing standards.

2. Web services will extend the healthcare enterprises by making their own services available to others and will extend the life of the existing software by exposing previously proprietary functions as Web services.

However it has been generally agreed that Web services offer limited use unless their semantics are properly described and exploited [3-6]. Evidence based clinical practice needs sufficient knowledge [7] on latest development in medical science. Automated information management tools like internet, web based libraries, CME, Electronic Medical Record (EMR), Electronic Health records (EHR), and computerized prescriptions are important components. [8]

E-Governance

E–governance is the application of electronic means of interactions, between government and citizens,government and businesses as well as in internal government operations to simplify and improve government and business aspects of governance. It is the usage of information and communication technology (ICT) in the public sector to improve its services and operations. Thus ICT offers an opportunity for improvement in public service delivery and most administrative best practices build upon the process redesign and convergence which is brought about by ICT.ICT enabled e-governance enables transformational changes rather than a technical change. Storing of information in digital form accessible and transferable, wherever and whenever needed is essential.

Telehealth care system can be defined as the use of ICT to support the delivery of health care directly to people outside the caonventional care centers such as hospitals or residences. Telemedicine aims to deliver specialist care at doorstep to the helpless patients in remote areas. The number of heath care facilities are inadequate as India's health care infrastructure has not kept pace with the economies and sectorial growth. The healthcare industry is growing at a steady pace is moving ahead and is recognized sector like pharmaceutical industry and software. The various forces of globalization and

ICT especially internet are said to have facilitated the formation of coalitions networks from the bottom up, thereby linking the global and local processes.

As healthcare facilities are inadequate there are administrative, diagnostic and therapeutic delays or errors to add to patient' trauma.There is lack of proactive information and thus lack of adequate counseling. Quality assurance by total qualitymanagement,medical and nursing audits supported by computerization of all processes like store, pharmacy, finance and purchase section, inventory and administrative machinery would save money, time and transcend human error. Computer help should be utilized for clinical decision making for selecting suitable tests, proper interpretations,accuracy in diagnosis and update management.

Automated information management tools like internet,web based libraries,CME, Electronic medical records (EMR)Electronic health records (EHR) and computerized prescriptions are important components.

Computerizations of hospitals(registration inOPD, In-patients), Imaging section andrecord section are initial steps.

EMR integratespatient's data with decision making system. EMR contains complete history by patient-computer interaction and records sensitive issues like addiction, sexual behavior,STD,HIV, mental illness and suicidal tendency etc.Ultimately EMR leads to data mining for newer scientific development. EMR can be kept in custody of patient in form of CDROM or smart card. Computerized prescription has the advantage of correct dose, duration,and patient and pharmacy compliance. Health connect is a web based tool for doctor patient communication. Web page exists forevery specialty and even for specific disease with necessary data base.

ICT can enable health related information in the web, create PPP model, help customer contact, allocate patient to different level of health care, provide electronic form for patient interaction and build e-prescription system. It is high time to explore how doctors and IT personnel can work together to reduce health care cost, deliver high quality services and cover rural mass.Due to large population, lack of infrastructure, low per capita income, diseases and illiteracy nearly 70% population are in the villages and out of reach.So the concept of village e- health center to provide basic health care via online videoconferencing. ICT applications aims to create awareness among physicians,medical students and IT industry.Good quality health care delivery at doorstep in low cost would safeguard national health leading to economic growth.

Current E-Health Scenario in India.

Inspite of much talk and hyped concept there is very little which is done and which can be quoted as achievement in this area by the government bodies. Enormous amount of resources have been spent but very little change on actual health status of people have been noticed.

There has been undue delay in implementing e-governance and e-healthcare in developing countries like India due to following reasons (1) Absence of competition in health sector – for long time healthcare is handled by Public Health System(PHS) with no competition. (2) Weak customer with low bargaining power (3) Non-existence of funding system like insurance or socialsecurity agency. (4) Strong professional culture among doctors hostile to new ICT applications (5) Doctors and nurses believe on their skill than on computer. (6) Lack of computer-aid in medical and nursing education. Consequentially e-governance thinking is nearly non-existent or in initial/ adhoc stage in health sector.

Overburdened and collapsed public health care system (Govt. Hospitals) is also taking ICT route (Deepalakshmi, 2008) in various part of the country. Web services are essential for medical professionals, administrative members and patients to organise, share and access medical services.Health care ICT helps in increase productivity (use of OT, equipments, Doctors, Nurses and live saving drugs), It helps for maintaining stock and store, patient satisfaction, delivery of quality care and abolish outdated procedures. It reduces red tapism, delay, chaos encountered in big Government hospitals.

Corporate healthcare is gearing into fast track growth using latest technology to provide best quality service to face the competition. Few examples are stated below:

1. Wipro for Delhi Municipal Corporation (DMC): Wipro provided Hospital Information System (HIS) to six hospitals of DMC.

2. TCS for Tamil Nadu: The Tamil Nadu Government has allotted Rs 5 crore to Tata Consultancy Services (TCS) to develop a suitable solution to maintain electronic medical records (EMR).

3. 21st Century's Health NET in Goa: The Government of Goa in association with 21st Century Health Management Solutions implemented Rs-2.5-crore Hospital Management Information System (HMIS) called Health NET in Goa Medical College (GMC) Hospital.

4. Intel's World Ahead: The World Ahead Programme is an initiative launched by Intel to provide education and healthcare service in India. In the healthcare sector, Intel has carried out tele-health projects in Baramati, Maharashtra and Trivandrum, Tamil Nadu, and child health monitoring in Chandni Chowk, Delhi.Intel has experience in ICT application in Health sector in Maxico, Brazil, China and South Africa.

5. HP in Maharashtra: In January 2007 with 100 Cr. funding automation project of 19 Govt. hospital and 14 medical colleges started. HP healthcare solution and Amrita Technology worked together for system integration and doctor's training.

6. CMC LTD: India Healthcare Project in Andhra Pradesh: Hand held mobile computing devices like Personal Digital Assistants (PDAs) are being provided to Primary Health Centers (PHCs) and Auxiliary Nurses and Midwives (ANMs). While nursing or counseling the beneficiaries, the ANMs collect data using the PDA in the villages.

E-Health Scenario in Orissa Tele medicine and tele referral services of NIC: First Tele CMEs were started in north eastern states through Community Information Centre (CIC) (Community Information Centre, 2008) of NIC in collaboration with SGIPGMS, Lucknow.

Concluding Remarks

ICT application aims to create awareness among physicians, medical students and IT industry. Its purpose is to evoke interest among medical students to acquire ICT skills in addition to their specialty knowledge. This will save their precious time which can be utilized for higher professional growth. Finally good quality health care delivery at doorstep in low cost would safeguard national health leading to economic growth.

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ABSTRACT

CLINICAL CASE ANALYSIS

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Consultant Biochemist & Quality Manager

JMD Diagnostics Private Limited

Clinical Case Analysis Case 1 Patient description: 28yrs, Female. Case history: Menorrhagia, small goiter. Laboratory investigations: T4: 6.6 µg/dl. TSH: 8.0µU/L. Anti TPO Antibody: 150 IU/ml Probable interpretation: Subclinical hypothyroidism Case 2 Patient description: 56 yrs, Male, weighing 48kgs. Case history: The patient is on 75µg thyronorm for the last 5 years. TSH was within normal range 6 month earlier. Current laboratory investigations:

TSH: 17µU/ml; FT4:0.8ng/ml. Clue: Currently chest physician started him Ant Tubercular Therapy including Rifampicin for 6 weeks. His wife has been getting him 200 ml soya milk per day. Probable interpretation: Rifampicin & soya milk interferes T4 absorption. Case 3: Patient description: 64 yrs ,Male. Case history: Found unconscious after suffering a Cerebrovascular accident and brought to emergency department. Laboratory investigations: HCT- 44%; RBC-4.3mm/106 , MCV- 104fL. Series of sodium results ranged from 164-175mmol/L. BUN- 33mg/dl; Creatinine- 1.5mg/dl; Serum Osmolality: 357mOsm/kg; Urine Osmolality: 1008 mOsm/kg; Urine Na : 228mmol/L. AST- 41U/L; LDH-426U/L; GGT-72U/L; Total protein -7.8g/dl; Albumin- 2.8g/dl. Occult Blood :+ ve. Clostridium difficile : present. Urine nitrite: +ve.

Probable interpretation: Hypernatremia,peptic ulcer accompanying CVA, urinary tract infection. Case 4: Patient description: 18yrs ,Male. Case history: Fatigue & muscle weakness, palpitation. Laboratory investigations: pH -7.5; HCO3-:28.9mmol/L; K+- 2.5mmol/L, Mg++ - 1.2mg/dl. Probable interpretation: Hypo kalemia associated with hypo magnesia.

ABSTRACT

ONLINE – HEMODIAFILTRATION VS. CONVENTIONAL HEMODIALYSIS : A CROSSOVER STUDY.

Ratan Kumar Ghosh

Introduction

Prospective studies suggest that online hemodiafiltration (OL-HDF) may reduce the risk of mortality compared with conventional hemodialysis patients with end stage renal disease (ESRD) . The main short-term advantages of hemodiafiltration (HDF) are supposedly better removal of phosphate and albumin, and better haemodynamic stability .The aim of the study was to compare the clinical and biological parameters stability like hemoglobin, albumin, creatinine, calcium, phosphorous etc associated with conventional HD and on-line high-flux hemodiafiltration (HDF) , using a cross-over method , while maintaining the unchanged dialysis parameters. The main disadvantage is higher costs of on-line hemodiafiltration dialysis treatment process .

Methods

All maintenance hemodialysis (MHD) patients on a 2×4 hours schedule with blood flow 300 ml/min, dialysate flow 500 ml / min, access AVF (90%), Param cath (10%) and were observed during 3 identical 9-months periods: HD- HDF1 – HDF2. Sample were taken first base line, second three months on conventional dialysis (HD), third three months on-line hemodiafitration (HDF1) and last six months on HDF2 treatment. The mean values for the 3 last months of each period were compared.

Results

A total of MHD10 patients (70 % males, 30 % female) with a mean age of 60±16 years, and who had been on dialysis for 19±9 months were included. The mean blood flow (300 ml/min), dialysate flow (500 ml/min), were recorded. Patient medications were not changed. Predialysis blood pressure, phosphataemia, calcaemia, albuminemia, creatinin, hemoglobin and intradialytic events were note throughout the 3 periods. Only serum albumin (43.0±1.3, 40.0±3.4, 35.6±5.6 g/L, p<0.001) and serum inorganic phoshphate levels (56.4±4.6, 46.9±5.3, 39.3±7.5 mg/L, p<0.001), values shown for HD, HDF1, HDF2, respectively) were significantly lower during the HDF periods.), hemoglobin (102.2 ± 1.6, 110.0 ± 4.0, 104.0 ± 6.5) gm/L values shown for HD, HDF1, HDF2, respectively) were significantly higher during the HDF periods. During the on-line HDF period, which allowed a decrease in the erythropoietin doses . On conventional HD dialysis intra-dialytic complication including hypotension 30%, muscle cramps 10% but on HDF hypotension 10% and no muscle cramps or other dialysis complication happened during this study.

Conclusion

This study suggested that HDF treatment could reduce all cause mortality in incident. The change from conventional HDF to on-line HDF results in increased convective removal of large and middle molecule. On online hemodiafiltration serum albumin (- 6.9 % vs HD), phosphorous (- 16.6% vs HD) changed. On-line HDF provided a better correction of anaemia with lower dosages of erythropoietin. This short term study did not observe any such differences in haemodynamic stability. The long-term clinical consequences of these biochemical differences should be prospectively assessed.

Keywords: ESRD, MHD, Online hemodiafiltration, High-flux hemodialysis, Albumin, Phosphataemia.

RHEUMATIC FEVER DUE TO STREPTOCOCCAL PYOGENES GROUP A

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Rheumatic fever (RF) is an acute immunologically mediated, multi system inflammatory disease (myocarditis, endocarditis, cellulites, necrotizing fasciitis, ostitis media, pleurisy etc), even with characteristic disturbance of Central Nervous System function(chorea).

Pathogenesis: Acute RF results from host immune responses to group A-S. pyogenes infection that cross-react with host proteins. In particular, antibodies and CD4+T cells directed against streptococcal M proteins can also in some cases recognize cardiac self-antigens. Antibody binding can activate complement and recruit Fc-receptor bearing cells (neutrophils and macrophages).

Laboratory findings:

1) In early stage of this disease there is usually leucocytosis of 10,000-15,000/cumm with polymorphonuclear predominance.
2) The Erythrocytic Sedimentation Rate (ESR): The value is considerably raised.
3) C-reactive protein test:It gives positive result in nearly all rheumatic fever attacks (except those who as chorea as a feature and those who are under treatment with salicylates or corticosteroids)
4) PYR(pyrrolidonyl) test:This test detects pyrrolidonyl peptidase enzyme activity.

   Not only S. pyogenes, Enterococcus sp. and occasionally streptococci belonging to group C and G also gives positive result in this test.
5) Lancefield grouping: S. pyogenes belongs to Lancefield group A. Pure growth beta-haemolytic colonies (confirmed catalase negative, Gram positive streptococci) are grouped using specific Group A.

   Positive group A test indicates that the organism is S. pyogenes (particularly when bacitricin sensitive and PYR test gives positive result)
6) Culture:

   (A) Blood agar- S. pyogenes produces beta-haemolytic colonies i.e. the colonies are surrounded by a zone of complete haemolysis with decolorization of haemoglobin.

   The colonies are colourless, dry, shiny or mucoid.

   (B) MacConkey agar- S. pyogenes is unable to grow in this agar.
7) Anti-streptolysin O (ASO) antibody test in serum:

   In 80-85% of rheumatic fever patients ASO antibody titre measurement is increased.

   This antibodies are formed by the response of S. pyogenes infection (and other streptococci that produce streptolysin O, some group C and G strains).

a) In first week of the infection, the ASO titre value remains normal i.e upto 200IU.
b) It's value progressively start increasing from the beginning of second week.
c) After this, the value increases rapidly (about 700IU) in 7days.This phase indicates the onset of rheumatoid fever.
d) Declination of the value begins from the middle or end of the third week.
e) It takes about 10 weeks to come back to normal value.

   Non-streptococcal conditions that occasionally cause positive reactions in ASO antibody test are- rheumatoid arthritis, tuberculosis, pneumococcal pneumonia, gonorrhoea and hepatitis, but the value is not more than 500IU.

8) Measurement of DNase B antibody: Rise of deoxyribonuclease B (DNase B) antibody occurs after the rise in ASO antibody in response to group A- S. pyogenes infection.

   It's normal value is upto 80IU.

   In case of acute glomerulonephritis the value of DNase antibody level is also increased but here skin infection is observed. By this feature rheumatic fever and glomerulonephritis can be differentiated.
9) Anti-hyaluronidase test: The value of this test increases than the normal value when rheumatoid fever occurs.

   It's normal value for young is upto 80IU and for adults the value is upto 300IU.
10) Immune response: Antibodies, IgG and IgA level are increased in rheumatoid fever.
11) ECG: Prolonged PR interval, second and third degree blocks, ST depression, T inversion are observed.

GALLBLADDER STONE

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INTRODUCTION:

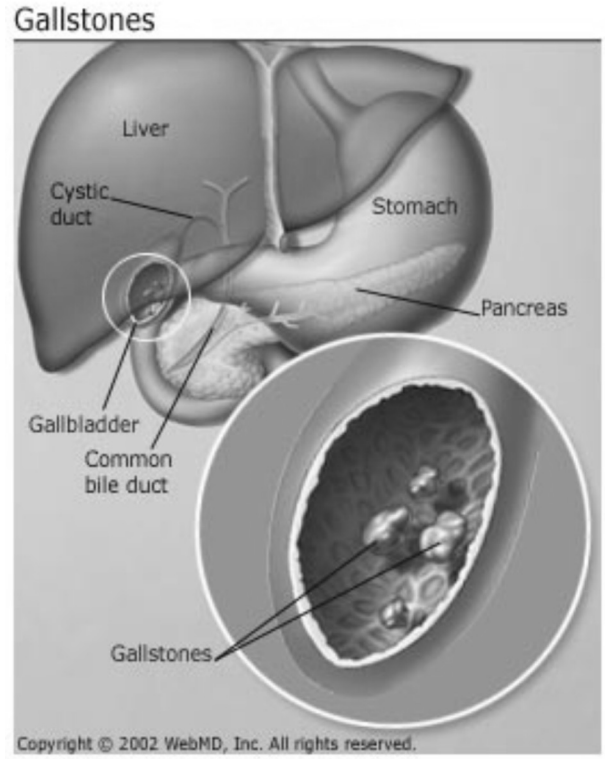
Gallbladder It is a pear-shaped (size is 5-12 cm) reservoir, located in a fossa on the inferior surface of the liver.

PARTS:

Fundus, body, infundibulum and neck Gallbladder drains through cystic duct into common hepatic duct to form common bile duct. It is supplied by cystic artery, a branch of right hepatic artery. Calot's triangle is formed by common hepatic duct to the left, cystic duct below, and inferior surface of liver above. Cystic artery originating from right hepatic artery passes behind the common hepatic artery, enters the Calot's triangle to reach the gallbladder. It contains lymph node of 'Lund' (Fred Bates Lund). Often cystic artery, hepatic artery, cystic duct have anomalous positions and anomalous origins. Both gallbladder neck and cystic duct contain mucosal fold called valves of Heister.

GALLSTONES :

Thus with stone obstruction of the common duct, dilatation of the gallbladder is rarely observed; the organ has alreadyundergone contraction; with obstruction from other causes, dilatation is to be expected



GALLSTONE ILEUS:

It is a type of acute intestinal obstruction, often seen in elderly and is due to blockage by a bolus or mass of gallstones which commonly enter the intestine through cholecystoduodenal fistula (75%) or rarely through cholecystointestinal or gastric fistulas.

Clinical Features:

- Pain abdomen and features of intestinal obst ruction.
- Stones may perforate the ileum to cause peritonitis.
- It is 1% of all intestinal obstruction overall; 25% of obstruction in elderly.
- Recurrent episodic obstruction due to moving stone bolus is typical—tumbling obstruction.

Investigations:

- Plain X-ray abdomen in erect posture shows air in the biliary tract (branching gas pattern) and multiple air fl uid levels.
- U/S abdomen.
- CT is diagnostic.

Treatment:

- Laparotomy, enterotomy, removal of gallstones and closure of enterotomy is done.
- Enterotomy is done not at the site of obstruction but more proximal to the site of obstruction and stones are milked towards the enterotomy site.
- If bowel is found ischaemic at the impacted area, resection and anastomosis is done.
- Laparotomy and crushing of stones with fi ngers to relieve the obstruction is only occasionally useful.
- Cholecystectomy, correction of fi stula with T tube drainage can be done in same sitting if patient's general condition is good. Otherwise it is done after 12 weeks.

CHOLECYSTECTOMY:

It is the surgical removal of gallbladder.

Indications:Gallstones—symptomatic.Cholecystitis—acute, chronic.Acalculouscholecystitis.Empyema gallbladder.MucocelegallbladderApproach: Open Right subcostal incision (Kocher's). Right paramedian. Horizontal incision.Mayo-Robson incision.Laparoscopic approach.

LAPAROSCOPIC CHOLECYSTECTOMY:

It is the most popular method to remove gallbladder. It is the gold standard treatment for gallstone. Position

Supine, head end up and right side up. Anaesthesia—general.Ports 10 mm port in umbilicus to pass 10 mm telescope. 10 mm port in midline epigastrium as working channel. Two 5 mm ports at midclavicular and anterior axillary line in subcostal region

ADVANTAGES OF LAPAROSCOPIC SURGERY

Relatively less painful compared to open surgery. Trauma of access is very less. Shorter hospital stay and early return to work.Faster postoperative recovery. Better visualisation of the anatomy, i.e. better approach for dissection and visualisation of other parts of abdomen for any other pathology. Instrumental access to different abdominal locations is many times better compared to open method. Minimal scar on the abdomen.

Technique:

After opening the abdomen, colon is pushed down wards and stomach medially.

Duct—first method:

Here Calot's triangle is dissected. Cystic artery is identified and ligated. Cystic duct is ligated close to the gallbladder. Gallbladder is separated from gallb ladder fossa and removed. Haemostasis is maintained.

Fundus—first method:

It is done in diffi cult gallbladder due to dense adhesions. Fundus is separated from the liver bed. Dissection is carried proximally until cystic duct and cystic artery are identified, which are then ligated.

Problems:

- Difficult Calot's triangle.
- Dense adhesions.Bleeding.
- Anomalies of cystic duct, cystic artery.

Complications:

- Bile duct injury—0.8 %.
- Bleeding.

Advantages:

There is no visible scar like a traditional multiport. Faster recovery time, early return to work. Cosmetically better. Disadvantages: Expensive trocars and instruments—cost factor. Skilled work, learning curve.Dissection against normal surgical ergonomics.

EFFECTS OF AGE ON PLASMA GLUCOSE LEVELS IN NON-DIABETIC &AMP DIABETIC PERSON OF ADJACENT AREA OF SINGUR

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Gurudas Seth * , Suvojit Pore * , Arnab Sau * ,
Krishanu Sarkar * , Soumen Bhattacharyya ** , Sourav Mondal **
** Students of B.Sc MLT (3 rd Year), Sevayatan School of Medical Technology, **Corresponding author, Asst. Prof, Sevayatan School of Medical Technology*

Introduction:

In both diabetic & non-diabetic population, high blood glucose levels have been found to be associated with health complications such as coronary artery disease. Many modifiable (obesity, sedentary lifestyle, smoking & excessive alcohol consumption) & non-modifiable factors (gender, ethnicity, & age) have been found to affect the glucose homeostasis. Diabetes isa condition in which the level of blood glucose is high. The body produces insulin, a hormone secreted by the pancreatic B cells, which increased cellular glucose uptake. A reduction in the production or utilization of insulin by cells causes diabetes mellitus.

Aims and objectives:

To analyze the relationship among different age groups and blood groups of non-diabetic & diabetic individuals in respect of their plasma glucose levels, at Singur and its adjacent areas, District - Hooghly, West Bengal.

Methodology:

For this study 235 subjaects were selected randomly under the age group of 25 to 75 years. Fasting blood samples were collected at Sevayatan Pathological Laboratory, Singur, during three months of this study period. The plasma glucose concentration was measured. Also separately blood grouping of same number of subjects was performed. Comparative analysis was done in respect of hyperglycemia (diabetic) and normal glucose levels (non-diabetic) with different age groups and different blood groups of subjects from the population of Singur in Hooghly district of West Bengal. Results were justified by statistical analysis following Student t-test.

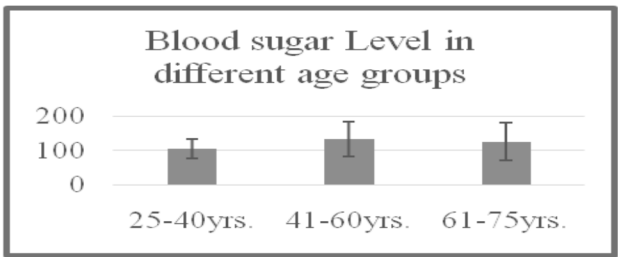
Result :

Age groups	Mean±SD
25-40 years	106.32±28.25
41-60 years	133.82±52.04
61-75 years	126.42±54.40

Table: 1 Blood sugar level in different age groups

Blood groups	Mean±SD
A+	117.66±38.16
B+	127.77±51.03
AB+	134.44±49.66
O+	127.4±59.53

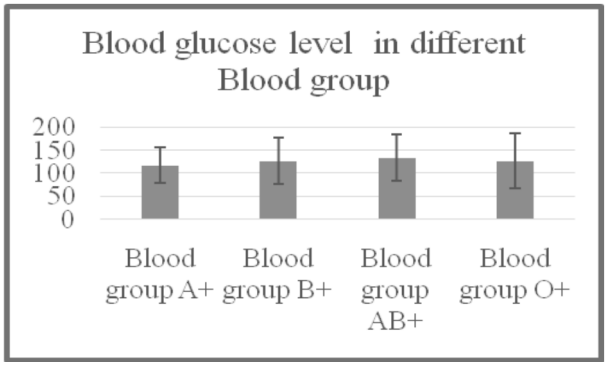
Table 2: Blood glucose level in different Blood group



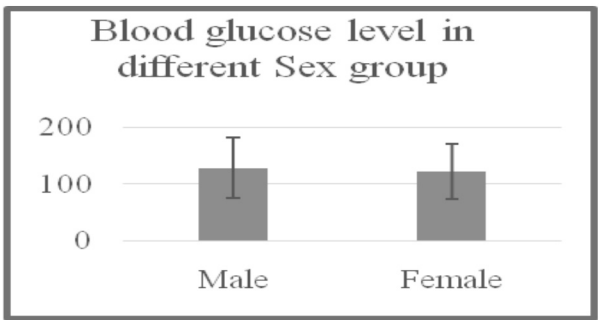
Graph 1

Sex Group	Mean±SD
Male	129.07±52.81
Female	122.31±47.96

Table 3: Blood glucose level in different sex group



Graph 2



IMAGES OF EVENTS

Mr. Gautam Deb at AIIMT 24 Congress, NBMCH

Releasing Journal 'Medical Technology'

Manindra Chaudhuri, R.K.Acharya & Asim Gan
on the way back from Korea (World Congress)

Award Ceremony 24 Congress

Dr. kali Kinkar Mondal, Dr. A. K. Saha, Mr. Velmurugan
& Mr. D. Bhattacharjee

Dr. A. K. Saha, awarding the students

Group photo with Dr. A. K. Saha

Mr. Gautam Deb and others at 24 Congress NBMCH

Dr. Kalyan Khan, 24 Congress of AIIMT

24 congress

24 congress

Delegates of Shimla Congress

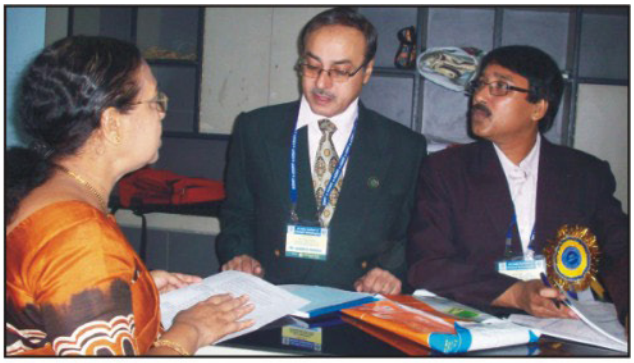
24 congress

Dr. S. Sanyal, Minister Sultan Ahmed & M. Chaudhuri

IFBLS Board members

IFBLS Board meeting

Receptionof Hon'ble Minister Sultan Ahmed



Registration Desk, 2009 Congress,Science City

Mr. Sougata Roy, MP and Mr. Jogen Chawdhury, MP
& AIIMT delegates

Trichy, Executive meeting

Signing of contract for 28th Wold Congress, New Delhi

Site Visit by IFBLS team for 28th World Congress
with AIIMT members

Marie Nora, Leena Morgan and AIIMT members

IFBLS members & AIIMT members

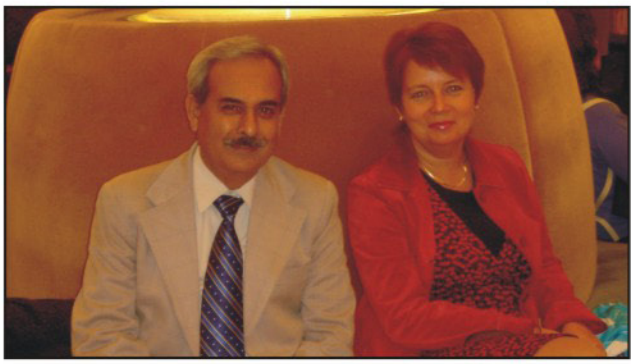
AAMLS GB, Busan, Korea

Exhibition, AAMLT, Busan, Korea

Mr. Jeyaraj at Lunch AAMLS, Busan, Korea

Jennifer Tanabe & Manindra Choudhuri, ASCP Booth, Busan

JAMT Past President, Leena & Manindra, Japan



Manindra & Leena at JAMT Congress, 2009

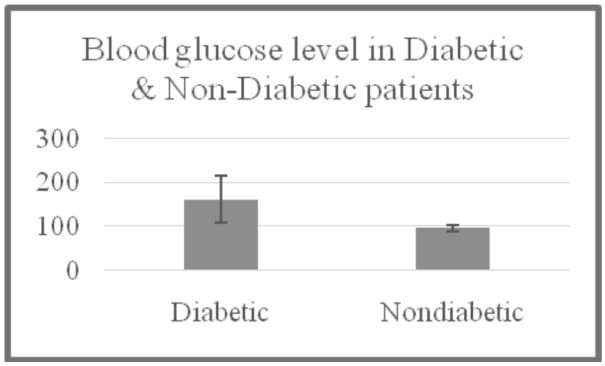
Mr. A. Gan and M. Chaudhuri on the way to Japan CD meeting

Mr. G.Jeyaraj in IFBLS CD meeting at Copenhagen

Graph 3

Patients	Mean±SD
Diabetic	161.32±54.58
Non- diabetic	94.78±8.37

Table 4: Blood glucose level in Diabetic & Non-Diabetic patients



Discussion:

Among the 235 people selected age group viz. 25-40, 41-60 and 61-75 years. The observation in the Graph 1 the fasting blood glucose level in age group of 41- 60 years is 133.82±52.04 (Table 1) and in Graph 2, it was observed that the individuals with AB+ blood groups have higher blood sugar level (134.44±49.66). These persons are more affected than the other age and blood groups.

During the study it was observed that the fasting glucose level is commonly affected among the male candidate than the females (Graph 3). Among 235 study subjects the average of diabetic and non-diabetic individuals are shown in graph 4.

Conclusion:

We observed that middle and old aged people are more affected on diabetes than young people. The most probable causes are hypertension, food habit, and obesity. That causes abnormal metabolism in the human body. Middle and old aged people has different health related complication such as rush lifestyle, long office hour, lack of exercise, anxiety, depression and pollution, etc. Aged people mainly acquire type 2 diabetes due to increasing insulin resistance and also due to the onset of the impaired pancreatic islet function with ageing. Besides of these, health problems also a big problem in case of both aged and middle aged people such as high cholesterol, high blood pressure, heart disease, and any other health problems. It was also observed that people with A+ blood group are least affected among other groups. The effects of blood groups should be further investigated in future clinical studies on diabetes to understand more about it. In case of blood glucose level of different sex groups, male are more affected than female. The reason behind male being more affected is not clear. One possible reason could be that males are less sensitive to insulin than women of same BMI.

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DETERMINATION OF URINARY AND FAECAL NITROGEN

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1) DETERMINATION OF FAECAL NITROGEN

Digestion mixture

Sulphuric acid together with some catalyst is usually used, the best probably being selenium dioxide and potassium persulphate.King et al.(1937) used the former. Their digestion mixture consists of 1:1 sulphuric acid and water containing 1 gram of selenium dioxide per 100 ml. Pour 50 ml. of concentrated sulphuric acid very slowly with constant stirring into 50 ml. of distilled water. Dissolve 1 gram of selenium dioxide in the mixure, cool, and make up to 100 ml. with distilled water.

Other worker useed 1:1 sulphuric acid and water and added potassium persulphate, either powdered or in solution, during the course of the digestion.

Campbell and Hanna(1937b) used a mixture of sulphuric acid (3 parts) and phosphoric acid (1part) containing 1 gram of copper sulphate and 1 gram of selenium dioxide per 100 ml.

Nessler's reagent

(a) Koch and McMeekin (1924). Make the following two solutions.

A. Dissolve 22.5 grams of iodine in a solution of 30 grams of potassium iodide in 20 ml. of water. When solution is complete, add 30 grams of mercury. Shake well, keeping cool by immersing in cold water from time to time, until the supernatant fluid has lost all yellow colour due to iodine. Decent the supernatant fluid and test a few drops with 1% starch for the presence of iodine. If starch gives no colour add an iodine solution similar to the above, in small quantities at a time, until a slight excess of iodine can be detected on addition of a few drops to the starch solution. Dilute to 200 ml. and mix.

B. Sodium hydroxide, 10% solution accurately prepared. Prepare a saturated solution (55%), stand for 3 days, decant, dilute to 10% and standardize.

To prepare the reagent mix 200 ml. of A with 975 ml. of B. Allow any precipitate to settle and use the clear supernatant fluid.

(b) Harrison (1947). Mix 150 ml. of A, 700 ml. of B and 150 ml. of water.

A. Dissolve 150 grams of potassium iodine in about 100 ml. of distilled water. Add 200 grams of mercuric iodide. When dissolved dilute to about a litre, filter, and make to 2 litres.

B. Sodium hydroxide, 10%, as above.

Method :

Faecal Nitrogen is determinated by the Kjedahl method. Homogenize the specimen of faeces in a suitable volume of water- a litre for an average specimen—digest 1ml. of this with with 1 ml. of digestion mixture, dilute to 20 ml. Take 1 ml. and add 2 ml. of water and 3 ml. of Nessler's reagent; as standard treat 1 ml.of a solution of ammonium sulphate (0.471 grams per litre, 100 micro gram N per ml.) in the same way. Read both unknown and standard against a full reagent blank and a standard blank respectively at 480 m micron or with a blue filtre. Then:

Grams N per specimen =

Reading of unknown X 0.100 X 1,000 X 20 i.e X 2.0

Reading of standard 1,000

For hogher values use 0.5 ml. or less of diluted digest. Prepare a standard curve to check Beer's law holds over the range used.

2). DETERMINATION OF URINARY TOTAL NITROGEN

by Kjeldahl Aeration Method

Reagent:

1. Conc. Sulphuric acid
2. Potassium sulphate
3. Sulphuric acid, 0.01 N.
4. Sodium hydroxide, 0.01 N.
5. Sodium hydroxide, 40%,solution or solid pellets.
6. Methyl red indicator

Method:

Dilute the urine 1 in 10, and pipette 2 ml. of this into a Pyrex test tube(8").

Add 1 ml Conc. sulphuric acid and 0.2 gram of potassium sulphate.

Heat over a small flame and boil gently.

The mixture becomes dark brown and then clears, becoming almost colourless.

Continue heating for a further 10-15 minutes.

Allow to cool.

Wash the digestion mixture into a cylinder with three portions of about 3 ml. of sulphuric acid, Add 8-18 ml. 40% Sodium hydrtoxide.

Carry out a Blank on all the reagents.

CALCULATION:

1 ml. 0.01 N sulphuric acid is equivalent to 0.14 mg. of Nitrogen. Hence:

Urine nitrogen per 100 ml. of urine = (ml. titration of Blank- ml titration of test) X

2 X 0.14 X . 100 .

Volume of urine used

therefore, if 2 ml. of urine diluted 1 in 10 were used

Urine N in mg.per 100 ml. =

(ml. titration of Blank – ml. titration of test) X 140

Grams urine nitrogen per Diem = (ml. titration of Blank – ml, titration of test) X 1.4 X

Volume of 24 hours specimen

1,000

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ABSTRACT

BONE MARROW ASPIRATION BY FINE NEEDLE

Prem Chandra Kumar

MLT, PHI Patna

Bone marrow examination is a useful diagnostic process for the diagnosis of many diseases such as leukemia, red cell disorders and parasitic infections. In modern diagnostic procedure for diagnosing such diseases, bone marrow is aspirated by KLIMA or SALAH needles in all diagnostic centre as well as govt. hospitals.

In developing countries like India where health facilities are poor and even far away from some remote areas, the PHCs centre and district hospitals, in that area where well established lab are not available. Bone marrow aspiration & examination is a challenging task even having qualified and trained doctors and medical technologists.

In such conditions the bone marrow aspiration can be performed by FINE NEEDLE (B.D 21X1) instead of KLIMA or SALAH needle in pediatrics patients (2-12 years) from sternal puncture. It is a simple process, less painful, low cost and no compromise of accuracy in compare with KLIMA or SALAH needle.

It requires aseptic process by highly qualified and skilled technologist to perform aspiration from sternum on child patients. Aspiration procedure same as KLIMA or SALAH needle with precautions. Disadvantages of this method are aspiration of fibrotic marrow is not possible and relationship of marrow cells may be destroyed. It can only apply on child patients and on sternum only.

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ABSTRACT

INCIDENCE AND ANTIBIOTIC SUSCEPTIBILITY PATTERN OF ISOLATED BACTERIAL SPECIES IN PUS, WOUND AND ABSCESSES.

Sanchita Chakraborty

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Antibiotic resistance among pyogenic pathogens has been gradually rising in post operative cases which lead to delay healing of incision site so it is important to have knowledge about the pattern and antimicrobial susceptibility to choose the correct treatment regimen. This study revealed the resistive and susceptible property of all the Gram positive and Gram negative bacterial isolates towards the antibiotics. Identification of the causative microorganisms and it's susceptibility to antimicrobial is important, so that proper drug is chosen to treat the patient in early stages. In this study

pyogenic wound infections are found prevalent in the hospitals of Mednapore and Jhargram and showed highest infection of Staphylococcus aureus and few amounts of Streptococcus sp. Bacterial isolates exhibited high to moderate levels of resistance against different classes of antibiotics. The main objectives of this study are to emphasise the antimicrobial susceptibility patterns among the strains of Staphylococcus aureus isolated from pus/wound and abscesses from operative site. In this study 80clinical samples (pus,wound and abscesses) are analysed where as 70percent infections are caused by Staphylococcus sure is and others Streptococcus sp. and Klebsiella sp. After antibiotics susceptibility

test, the isolated organisms showed a marked sensitivity to Gentamycin and Nitrofurantoin and the resistance pattern of Norfloxacine is comparable high (62percent). Another antibiotics like Cefixime, Azithromycine, Co-trimazole and Netilinine shows also resistance pattern. The susceptibility data from this study may be worth consideration while implementing empiric treatment strategies for pyogenic infections. At the same time, strict health policies should also be implemented to regulate the purchase and prescription and restrict the unsupervised antibiotics use as well as continuous monitoring and reporting antibiotic resistance.

ABSTRACT:
ERRORS IN CLINICAL LABORATORY

Swagata Das

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Laboratory testing is a highly complex process and, although laboratory services are relatively safe, they are not as safe as they could or should be. Clinical laboratories have long focused their attention on quality control methods and quality assessment programs dealing with analytical aspects of testing. The more recent surveys on errors in laboratory medicine conclude that in the delivery of laboratory testing, mistakes occur more frequently before (pre-analytical) and after (post-analytical) the test has been performed. Most errors are due to pre-analytical factors (46–68.2% of total errors), while a high error rate (18.5–47% of total errors) has also been found in the post-analytical phase. Errors due to analytical problems have been significantly reduced over time, but there is evidence that, particularly for immunoassays, interference may have a serious impact on patients. A description of the most frequent and risky pre-, intra- and post-analytical errors and advice on practical steps for measuring and reducing the risk of errors is therefore given in the present seminar. Many mistakes in the Total Testing Process are called ‘‘laboratory errors’’, although these may be due to poor communication, action taken by others involved in the testing process, or poorly designed processes, all of which are beyond the laboratory’s control. A recent document from the International Organization for Standardization (ISO) recommends a new, broader definition of the term ‘‘laboratory error’’ and a classification of errors according to different criteria. In a modern approach to total quality, centered on patients’ needs and satisfaction, the risk of errors andmistakes in pre- and post-examination steps must be minimized to guarantee the total quality of laboratory services.

ABSTRACT:
MENSTRUAL HYGIENE AND ITS MANAGEMENT

Nibedita Sasmal

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More than fifty percent of the female population is of reproductive age and most of them are menstruating every month. The majority of them have no access to clean and safe sanitary products and private space in which to change menstrual cloths and to wash. Many girls in developing countries around the world tends to use old cloths, tissue paper, cotton or wool pieces, or some combination of these items to manage their menstrual bleeding. Common health problems are bacterial and fungal infections in vagina due to poor hygiene during menstruation. Besides the health problem due to poor hygiene during menstruation, the lack or un-affordability of facilities and appropriate good quality sanitary products may push menstruating girls temporarily or permanently out of school, having a negative impact on their right to education. The best place to make an impact on improving the lives of girls and women is in fresh water and better sanitation. The time has come to promote the role of good menstrual hygiene management as a trigger for better, stronger development of women and girls in personal, educational and professional life.