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Scientific Presentations

ABSTRACTS

EMERGING INFECTIONS

UDAS CHANDRA GHOSH

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Emerging infections are defined as newly appeared infections in a population or infections have existed but are rapidly increasing in incidence or geographic range. They are caused by various factors, including zoonotic diseases, climate change, and global travel but these are mainly due to viral infections. For example, SARS-CoV-2, the virus responsible for the COVID-19 pandemic, is believed to have originated in bats and was transmitted to humans through an intermediate animal host. Similarly, Zika virus, which caused an outbreak in Brazil in 2015, is spread by Aedes mosquitoes and has been linked to increased global travel. A public health emergency of international concern (PHEIC) is a formal declaration by the World Health Organization (WHO) which is an extraordinary event to constitute a public health risk to other States through the international spread of a serious, sudden, unusual or unexpected disease and it potentially require a coordinated international response" to combat spread beyond the affected state's national border" and "may require immediate international action". SEVEN infections were declared PHEIC – in this millennium and these are: SARS – 2004, H1N1 influenza pandemic - 2009, Ebola (West African outbreak - 2013-20and outbreak in Democratic Republic of Congo 2018-2020,Poliomyelitis - 2014,Zika –2016,COVID-19 -2020 – 22,Monkey Pox - July, 2022.Ebola Virus Disease (EVD) is a rarely and deadly disease, common in sub-Saharan Africa, very much infectious, can manifest as Ebola hemorrhagic fever. Four variants and case fatality rates range from 25 to 90 percent. Fever, headache, bodyache, muscle pain, pain abdomen with GI symptoms are common clinical features. Rapid antigen detection tests by semi-automated nucleic acid tests help in diagnosis. Management is mainly supportive. In 2020, USA FDA approved the use of INMAZEB & EBANGA, monoclonal antibodies for Zaire ebolavirus. Corona virus or Covid 19 virus, medium sized, enveloping a positive – stranded RNA virus commonly affects respiratory and gastro-intestinal tract resulting much mortalities and morbidities in human populations. Though vaccinations are helpful to combat the disease but mutations may result a human epidemic. Monkey pox virus is a DS DNA virus, zoonotic mild disease and fatality rate of around 3-6%. Cases are found in India mainly in Kerala and Delhi. Three stages of monkey pox are febrile, rash and recovery stages and diagnosis by RT-PCR from lesions and body fluids. ZIKA virus-SS RNA virus discovered in Uganda, transmission by mosquito bite and other modes vertical and sexual. Most cases are asymptomatic but may present as fever, maculopapular rash, arthralgia, conjunctivitis and etc. Congenital Zika Syndrome results decreased brain growth. Diagnosis is usually done by serology – Zika IgM antibody. Treatment is supportive. In conclusion, five out of seven PHEIC of this Millennium occurred in last decade all are zoonotic in nature. Monkey Pox, Ebola, Zika along with COVID 19 is important PHEIC of viral diseases of last decade. Ebola are most notorious for high mortality. Zika - we are highly concerned for its mother to child transmission with a consequence of 15-20% incidence of microcephaly.

Keywords: Emerging infections, public health emergency of international concern, zoonotic diseases

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CHRONIC KIDNEY DISEASE AND ANEMIA: UPDATED MANAGEMENT ISSUES

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Anemia is common in patients with chronic kidney diseases (CKD). It is a common complication of advanced CKD. Its prevalence in CKD stage 5 populations is over 50%. The hormone "erythropoetin" (EPO) secreted by the kidneys is essential in the

maintenance of adequate hemoglobin in human body. Apart from failure of EPO secretion, many other factors including chronic inflammation, uremic bone marrow suppression, hyperparathyroidism, poor absorption of substrates from the uremic gastrointestinal tract etc. contribute to development of anemia in patients living with advanced kidney failure and dialysis. Iron deficiency state due to absolute or relative iron deficiency is common in CKD population. Furthermore, nutritional anemia is common in general population in our part of the world. Majority of this is also a result of iron deficiency. Replenishing iron stores in the body is the first strategy in the management of this condition. Besides the use of iron, deficiencies of other substrates like vitamin B12 should also be taken into account while managing anemia in CKD. Ferric citrate can be used as an hematinic and phosphate binder as well. Blood transfusion was invariable treatment strategy in the remote past. Though oral and parenteral iron and other hematinics are routinely used in the management of CKD, various erythropoesis stimulating agents (ESAs) used as injectable solutions lead the current therapeutic strategy in the treatment of anemia in patients with end stage renal disease (ESRD) and renal replacement therapies. More recently newer agents, the prolylhydroxylase inhibitors (PHI) like roxadustat which act as hypoxic ischemic factor (HIF) stabilizers have been more appealing to the patients and the clinicians. In contrast to the parenteral administration of ESAs, these new agents can be administered orally. While anemia is common, ideal treatment for anemia in CKD is still unsolved riddle and demands further research.

Keywords: Chronic kidney disease, anemia, erythropoietin, hematinics

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COMMUNICATION: A BASIC SKILL OF MEDICAL PRACTICE

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The doctor-patient relationship is central to the practice of medicine and is essential for the delivery of high-quality healthcare in the diagnosis and treatment of disease. There is utmost need for effective communication in medical practice. Communication is the key that unlocks a number of benefits. It leads to increased patient satisfaction, better understanding of the treatment, improved compliance, and overall better health. Therefore, clearer communication better understanding, and thus, better outcomes in the patients' and attendants' satisfaction. The need for communication with patients should be emphasized as it helps patients feel at ease, reduces their anxiety and builds their confidence, makes patients/clients feel valued, and reduces the chances of medical errors. Some of the key barriers to effective communication are such as personal barriers: negative attitude by doctors towards communication and giving it a low priority due to their concern primarily to treat illness rather than focus on patients' other needs which may be psychological or related to social wellbeing. Human failings, such as tiredness and stress: A lack of inclination to communicate with patients. This can be due to lack of time, uncomfortable topics, lack of confidence and concerns relating to confidentiality. Inconsistency in providing information and giving conflicting information by different healthcare providers. Organizational barriers, lack of time, pressure of work being subjected to interruptions. If the complains are justified it is important that you apologize and ask the relatives what they would like to be done about it. Any problem that the family feels or experience should be actively identified and appropriate action should be taken to resolve them. If their demanding behavior continues, set the limit and you can tell them that you cannot do better than what is being done. If the relatives insist on continuing to disagree about the patient's management, it may be necessary to call some senior doctor to try to explain and convince them. Imparting bad news is an emotional experience for the doctor as well as the patient and requires additional targeted strategies. When you speak to the patient they get the chance to clarify their doubts. Medical schools/ Colleges must be encouraged to provide the best possible communication skills training as part of the core undergraduate curriculum. This training should have set objectives and clear methods of assessment. More communication skills training programs should be developed at post graduate level. Doctors should use the appraisal process as a vehicle for discussing the success of communication skills training.

Key words: Communication, basic skill, medical practice

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CARDIOVASCULAR ASSESSMENT IN NONCARDIOVASCULAR SURGERY: WHAT EVIDENCES SAY?

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Annually more than 300 million patients (about 5% of the world population) undergo major surgery worldwide. Nearly 85% of major operations are non-cardiac surgical procedures. Proper preoperative evaluation is important to reduce cardiovascular morbidity and mortality in patients undergoing non-cardiac surgery. Cardiac risk is determined by two main factors: patient-related risk and surgical risk. Timing of surgery (Immediate, Urgent, time-sensitive, elective), type of surgical approach (laparoscopy, vascular and endovascular procedure, open surgeries) , risk of surgery (Low, intermediate, high surgical risk) determine surgical risk. Patient-related risk is assessed by patient's age, the presence of cardiovascular risk factors (e.g. smoking, hypertension, diabetes, dyslipidaemia,) or established cardiovascular disease, and comorbidities (heart failure, arrhythmia etc.).In emergency surgery preoperative evaluation is limited as saving life is more important. In elective surgery patient related risk factors, comorbidity, associated cardiovascular diseases, timing and risk of surgery , functional capacity determine further preoperative evaluation with necessary investigations like ECG, Echo, laboratory investigations, biomarkers, stress test, coronary angiogram etc.

Keywords: Cardiovascular assessment, Cardiac risk, noncardiovascular surgery,

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KIDNEY DISEASE – BANGLADESH PERSPECTIVE

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In Bangladesh, most patients with Chronic Kidney Disease (CKD) are diagnosed in the advanced stages of the disease, which leads to a high demand for kidney transplantation and dialysis services.Several studies suggest prevalence rate of CKD 6–18%; of them 11% were in stage III–V.Every year 35,000-40,000 new cases of kidney failure.Every year >20,000 chronic kidney failure patients die as they cannot afford dialysis or kidney transplant.73% treatment cost is out of pocket in Bangladesh.The cost of hemodialysis per session varies from 400-4500 BDT (USD 4-45) depending on institute.Even the ultra-poor patients who take dialysis at the rate of BDT 500 (USD 5) per session have to spend a minimum of BDT 20,000 (USD 200) per month only for the treatment cost. 40% patients discontinue dialysis after 3-4 months due to financial constraint. The existing facilities can hardly accommodate 9000–10,000 new patients, which means RRT isnot available for 70–75% of ESRD patients.Annually dialysis is done on >18,000 kidney patients across the country.80% of the total kidney-related deaths are caused due to insolvency to continue treatment.Currently >90% of dialysis patients are receiving Hemodialysis.Initiatives are taken to make CAPD more accessible, but high cost of PD fluid & lack of trained personnel remains as major barriers. Challenges are there in providing Nephrocare.There is insufficient number and uneven distribution of trained medical & allied health professionals, lack of proper referral system & follow-up & lack of laboratory facility in many areas, particularly in rural setup.Absence of insurance coverage for kidney dialysis & transplant treatment.Absence of patient support group & their participation in policy making process. To overcome the challenges we have to ensure affordable & equitable access to kidney care for people living with CKD through Public & Public Private Partnerships. Protection from out-of-pocket healthcare expenditure through universal health coverage to provide insurance coverage for CKD

patients and Subsidized treatment for dialysis & kidney transplant.Expansion of Fellowship program to develop more Nephrologists & training facility/ centers to develop more allied health professionals.Facilitating research for kidney disease with technical and financial support.Improve screening to ensure timely diagnosis and prevent CKD related complications.

Keywords: Kidney Disease, Bangladesh Perspective

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FLUID & ELECTROLYTES IN CLINICAL PRACTICE

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Despite the fact that fluid and electrolyte preparations are the most commonly prescribed medications in hospitals, a number of studies have shown that the knowledge and practice of fluid and electrolytebalance among young doctors is suboptimal, possibly due to inadequate attention to this most common but less taught chapter. This is responsible for errors in management, which continue to cause avoidable morbidity and even mortality. This presentation is aimed to create interest and further studies amongst the physician to assist them in understanding and solving some of the most common practical issuesof day- to-day clinical practice.

Keywords: Fluid, Electrolytes

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PRESCRIBING DRUGS IN RENAL FAILURE: A JUDICIOUS APPROACH

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Prescribing drugs in renal failure is essential to reduce their toxic effects due to unusual accumulation in renal failure. It is because of less protein binding and prolong half life of elimination in case of renal failure. Usually the toxicity of the drug is reduced by either diagnosing serum level of the specific drug or by measuring eGFR of the particular patient. We commonly use three methods in these cases to reduce the side effect of the drugs 1. Interval extension, 2. Dose reduction. 3. Combination of the above two. In case of patients on hemodialysis the drugs which are not protein bound are easily eliminated, so in such cases the drugs are either given after hemodialysis or giving a fraction of the individual dose just after hemodialysis. In case of Renal Transplantation prescribing drugs requires knowledge of the drug-drug interection. It is to be remembered that to get the immediate therapeutic efficacy of the drug in case of renal failure the loading dose is same as that of patients without renal failure, only the maintenance dose is either reduced or given with a prolong interval or both. The following drugs are specially important during prescribing in Renal Failure 1. NSAIDS 2. Psyhotherapeutic drugs 3. Antimicrobials and 4. Cardiovascular Drugs.

Keywords: Prescribing drugs, Renal Failure, Judicious Approach

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KIDNEY REPLACEMENT THERAPY: PROS AND CONS

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Kidney replacement therapy (KRT) is a term used to encompass life-supporting treatments for kidney failure. Kidney replacement therapy except kidney transplantation replaces nonendocrine kidney functions in patients with kidney failure. Researchers have noted that dialysis, which is one of the most common KRT used, cannot compensate for all the tasks performed by a kidney, and thus the term 'Kidney support therapy' has been suggested to be a better name. Support of kidney function in modern times encompasses a wide array of methods and clinical scenarios, from the ambulatory patient to the critically ill. The ability to safely and routinely deliver ongoing organ support in the outpatient setting has, until recently, separated kidney replacement therapy from other organ support. Kidney replacement therapy (KRT) can be applied intermittently or continuously using extracorporeal (hemodialysis) or Para corporeal (peritoneal dialysis) methods. All modalities exchange solute and remove fluid from the blood, using dialysis and filtration across permeable membranes. Nearly 4 million people in the world are living on kidney replacement therapy(KRT),and haemodialysis (HD) remains the commonest form of KRT, accounting forapproximately 69% of all KRT and 89% of all dialysis. Continuous therapy although costly is used mainly for hemodynamically unstable patients; benefits over intermittent therapy are improved tolerability as a result of slower removal of solute and water. Kidney transplantation is the ultimate step for end stage kidney failure management, as it replaces native kidney function completely. The main disadvantages of KRT relate to: Catheter related complications – blood loss, disconnection, infection or failure of access, mechanical complications of the extracorporeal circuit, fluctuations in the salt-water balance, activation of the coagulation cascade. Specific complications of peritoneal dialysis include: peritonitis, catheter- associated infections, hyperglycemia, protein loss etc. Current trends in artificial kidney research are ongoing with the lofty goal of a small device, preferably implanted with little or no maintenance required by the wearer that would deliver safe and highly effective renal replacement therapy including metabolic and endocrine functions.

Keywords: Kidney replacement therapy, kidney transplantation, haemodialysis

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HEART FAILURE WITH PRESERVED EJECTION FRACTION (HFPEF): A MISSED DIAGNOSIS

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One of the most common cause for "unexplained shortness of breath" is heart failure with preserved ejection fraction (HFpEF), that is frequently missed by the physician. Untill the wide use of BNP/NT ProBNP the term even remained unfamaliar to many of them. More over the concepts that, to make a diagnosis of HFpEF, a diastolic dysfunction is mandatory accounts for another cause of missing the diagnosis of HFpEF.The reality is Half of the all forms of heart failure is attributed to HFpEF. The diagnosis based on : the symptom of heart failure, the raised BNP/NT Pro BNP and any of the two of the either left venticular hypertrophy (LVH)/ left atrial enlargement (LAE) or features of diastolic dysfunction(as assessed by an echocadiography).The first criteria that is the symptom of heart failure is often non specific and frequently difficult to distinguish from other clinical conditions. The levels of BNP/NT ProBNP also needed to be defined according to various clinical conditions where there may be raised level of this biomarkers in the absence of heart failure.On the other hand the echocardiographic detection of LVH, LAE or left ventricular diastolic dysfunction is either time consuming or inconclusive in many patients. The various clinical phenotypes of HFpEF in the clinical

back ground also make it diffcult to "fit one size for all". Our presentation will focus on the various facets of missed diagnosed HFpEF.

Keywords: HFpEF, Heart failure,ProBNP

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CHANGING CONCEPTS IN TREATMENT OF ST-SEGMENT ELEVATION MYOCARDIAL

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ST-Segment Elevation Myocardial (STEMI) is a life-threatening condition that requires emergent, complex, well-coordinated treatment. Although the primary goal of treatment is simple to describe, reperfusion as quickly as possible- the management process is complicated and is affected by multiple factors including location, patient and practitioners' characteristics. Indeed, treatment of acute STEMI has progressed considerably over the past 100 years, from the early stages of bed rest and development of thrombolytics and myocardial reperfusion, to today's current strategy with a variety of mechanical and pharmacologic modalities. But the debate continues regarding optimal antithrombotic/anticoagulant and interventional strategies employed. Given the scientific and technological advantages, treatment strategies can be catered to better suit the patient and their presentation. Fibrinolytic therapy did save the lives compared to placebo, but at best restored Thrombolysis in Myocardial Infarction (TIMI) 3 Flow in 55-70% cases with increased incidence of recurrent ischaemia and infarction and intracranial haemorrhage. From Primary Angioplasty in Myocardial Infarction (PAMI) to 23 RCTs of Thrombolysis in Myocardial Infarction (TIMI) Vs Lysis showed that there is significant reduction in death (7.0% Vs 9.3%), Re-infarction (2.5% Vs 6.8%), haemorrhagic stroke (0.1% Vs 1.0%) and total stroke (1.0%) in Percutaneous Coronary Intervention (PCI) group. STEMI success has plateaued because of suboptimal salvage of myocardium and high rates of non-culprit lesion related events and reperfusion injury. Promising approaches should be further explored like hypothermia, stem cell and super-saturated oxygen therapy and PiCSO to enhance myocardial recovery and reduce infarct size.

Keywords: Treatment of STEMI, Fibrinolytic therapy

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NEW HOPE IN PARKINSON'S DISEASE MANAGEMENT

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Parkinson's disease (PD) is the second most common neurodegenerative disorder worldwide, projected to affect at least 12 million people worldwide by 2040. The Hoehn and Yahr Scale stages 4 or 5 are referred to as advanced Parkinson's disease (PD), which is characterized by significant motor deficits, a high risk of falling, extremely limited independence in terms of mobility, and cognitive and psychotic disorders. Motor fluctuations and dyskinesias frequently affect persons living with advanced PD, in which dyskinesia develops within 5.81 years from diagnosis, and motor fluctuations within 10 years. Continuous monitoring is necessary when motor fluctuations first appear to decide when to start an advanced treatment. Consequently, there is a vast need for improved treatments to address these motor symptoms. Deep brain stimulation, apomorphine subcutaneous infusion, levodopa-carbidopa intestinal gel infusion, and magnetic resonance-guided high-intensity focused ultrasound (FUS) are four device-aided therapies that provide new hope for treating PD in its advanced stages. The selection of device-assisted therapies is now mostly driven by the motor profile of the patient, with non-motor symptoms having a minimal impact on the decision-making process for

the delivery and maintenance of successful therapy. In preliminary human trials, passive and active anti-protein á—synuclein vaccinations are being investigated. Monoclonal antibodies (mAbs) like prasinezumab that target the aggregates of á—synuclein can reduce the levels of free á—synuclein in serum by 97% by passive vaccination. The use of á—synuclein fragments or equivalent epitopes in active vaccination to stimulate an immune response is also being investigated. Although cell-based regeneration therapies utilizing fetal brain cells are successful in a small number of cases, this treatment is not practical due to the lack of fetal tissue. A sustainable source of dopamine-producing cells, such as stem cells, dopaminergic progenitors obtained from induced pluripotent stem cells (iPSCs), or cells derived from embryonic stem cells (ESCs), is currently being researched.

Keywords: Parkinson's disease, Deep brain stimulation, apomorphine subcutaneous infusion, magnetic resonance-guided high-intensity focused ultrasound

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EPILEPSY: EVIDENCE-BASED MANAGEMENT

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Epilepsy is a chronic neurological disorder characterized by recurrent seizures. It affects millions of people worldwide and can have a significant impact on a person's quality of life. Evidence-based management is gaining popularity in all fields of Medicine. In the treatment of epilepsy it involves the use of proven strategies and interventions based on the best available research like systematic reviews and meta analysis. The goal of evidence-based management is to achieve seizure control while minimizing adverse effects and improving quality of life. Close collaboration between healthcare professionals, patients and caregivers is essential to developing and implementing effective management plans. Ongoing research and evaluation of management strategies are crucial to continuously improving the quality of care for the people with epilepsy.

Keywords: Epilepsy , seizures. Evidence-based management

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INTERNET ADDICTION: ISSUES AND CONCERNS

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There is some addictive use of the internet which ultimately refers to a disorder. Internet addiction is characterized by excessive or poorly controlled preoccupations, urges or behaviors regarding computer use and internet access that led to impairment or distress. The diagnosis "Internet Gaming Disorder" (IGD) has been included in the fifth edition of Diagnostic and Statistical Manual of Mental Disorders. This proposed condition is limited to gaming and does not include problems with general use of the internet, online gambling, or use of social media or smartphones.Co morbidity found in this addictive behavior like depression and anxiety. Treatment options are limited, including Cognitive behavioral therapy, family therapy, couple therapy, antidepressant, anti-anxiety drugs and naltrexone. The mental health professionals, information technologists, young and students affairs professionals should be alert to this disorder. Internet addiction is a growing concern in today's digital age. With the widespread availability and use of the internet, many people are finding it difficult to control their usage, leading to negative consequences in their daily lives. Some of the issues and concerns related to internet addiction include: Social isolation, Poor academic or work performance, Physical health problems, Sleep disturbances, Risks of Cyber bullying, financial problems, Behavioral and Relationship issues. It is important to seek help if you or someone you know is struggling with internet addiction.

Management options may include psychotherapy, support groups, and behavior modification techniques to help individuals regain control of their internet use and improve their overall well-being and sometimes medication need when intractable behavioral issues persist.

Key words: Internet addiction, Internet Gaming Disorder, Cognitive behavioral therapy,

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MEDICALLY UNEXPLAINED SOMATIC COMPLAINTS: MANAGEMENT IN REAL LIFE

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Medically unexplained somatic complaints (MUSC) are a common phenomenon in primary care settings, and they pose a challenge to clinicians in terms of diagnosis and management. MUSC refers to the presence of physical symptoms that are not attributed to any known medical or organic cause. These symptoms can significantly affect patients' quality of life and impose a substantial burden on healthcare systems. In real-life clinical practice, managing MUSC requires a multifaceted approach that includes a thorough clinical evaluation, psychoeducation, and collaborative care. The management of MUSC should start with establishing a good rapport with the patient and understanding their concerns and beliefs about their symptoms. Clinicians should also rule out any underlying medical conditions that may contribute to the symptoms. Once medical causes are excluded, the focus should shift to addressing the psychosocial factors that may be contributing to the symptoms. This can include educating patients about the nature of MUSC and the role of stress and anxiety in exacerbating their symptoms. Collaborative care involving primary care clinicians, mental health professionals, and other specialists is an effective approach for managing MUSC. It is essential to tailor the treatment to the individual needs of the patient and to ensure that they are engaged and motivated to participate in their care. In conclusion, managing MUSC in real-life clinical practice requires a collaborative, patient-centered approach that addresses the physical, psychological, and social factors contributing to the symptoms. Clinicians should adopt a biopsychosocial model of care and that maximizes patient engagement and improves their quality of life.

Keywords: Medically unexplained somatic complaints, physical symptoms, biopsychosocial

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ATYPICAL MYCOBACTERIAL INFECTION: AN ACHILLES HEEL FOR CLINICIAN

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Atypical mycobacteria or nontuberculous mycobacteria are organisms that cause various diseases such as skin and soft tissue infection, lymphadenitis, pulmonary infection, disseminated infection, and a wide range of more rarely encountered infections. The mycobacteria that most commonly cause this condition are most commonly found in the soil, indoor and outdoor water sources, and are recognized to colonize poorly sanitized medical equipment. Atypical mycobacteria most commonly infect young children, immunocompromised individuals, individuals with indwelling medical equipment, and those who have recently undergone surgical or non-surgical procedures. These bacteria can be further categorized into slow and rapidly growing organisms and grouped by the organ systems they commonly affect. Due to their morphology and growth patterns, atypical mycobacteria are difficult to identify on diagnostic testing. Treatment often requires extended courses of combination antibiotic therapy, frequently with surgical intervention.

Keywords: Atypical Mycobacterial Infection, Achilles heel

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GLOBAL BURDEN OF HYPERTENSION AND STRATEGIC APPROACH TO OVERCOME IT

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Globally an estimated 1.28 billion people have hypertension, most (two thirds) living in low and middle income countries. It is the leading cause of preventable death and is responsible for 10-20% of all death worldwide. Moreover, untreated hypertension can lead to a number of serious health consequences like stroke, heart disease, renal failure, dementia, vision loss etc. Antihypertensive treatment substantially reduces incidence of stroke (35-40%), myocardial infarction (20-25%) and heart failure (>50%). But hypertension remains undiagnosed in about 46% cases and only about 21% hypertensive individuals have adequately controlled blood pressure. There are several misconceptions regarding hypertension among people that hinders diagnosis or leads to false diagnosis and impair proper management of hypertension.

In attempt to reduce burden of hypertension awareness generation is the first necessary step. To create awareness among people several seminar, free blood pressure check-up campaigns etc can be conducted, billboard placement and leaflet distribution can be done in different public gathering sites like bazaar, fairs, mosques, school, college, hospital etc, and necessary knowledge on hypertension can be circulated through primary or secondary school textbooks and printing and electronic media. The next essential step is to provide quality service for hypertensive patients at an affordable cost through dedicated hypertension centers or hypertension corners. These centers should be designed to provide proper training for the stuff and proper education or counseling for patients and to perform necessary research works. Government initiatives to distribute free antihypertensive drugs should be enhanced and non-government aids can be added to it. National policy to control price of antihypertensive medications is also necessary. Finally, regular follow-up is necessary to ensure regular intake of medications, adherence to lifestyle advices, adequate titration of medications and early detection and treatment of any target organ damage. Proper counseling at each visit and reminder through phone calls or mobile SMS can improve follow-up tendency.

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BASIC APPROACH TO POISONING FOCUSING "TOXIDROME"

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Background: The term "toxidrome" is derived from the term "toxic syndrome."A toxidrome is a constellation of signs and symptoms that are seen with particular classes of poisons. **Methods:** A systematic review of English literature was done with search item naming toxidrome and or basic approach to poisoning. Search engine was multiple leaded by pubmed having mesh term of toxidrome. The journal sites of asiajol and banglajol was also searched for related topics. Personal communication with toxicology related paper was also applied during the process. Results: All of the toxidromes can be identified using the a quick "toxicological physical exam." No laboratory tests are necessary! The toxicologic physical exam focuses on the following components: Vital Signs, behavior like sleepy, normal, euphoric, agitated ? Pupils whether small, normal, big? Mucus membranes like checking the axillae whether it is dry, normal, wet?Bowel sounds to see whether it is decreased, normal, increased? There are 7 toxidromes that the emergency physician should be able to recognize and treat.These include: The anticholinergic toxidrome, cholinergic toxidrome, opioid toxidrome, opioid withdrawal toxidrome, sedative-hypnotic toxidrome, sedative-hypnotic withdrawal toxidrome, and sympathomimetic toxidrome. Beside these, two additional toxidrome has recently been introduced, one is serotonergic toxidrome and neuroleptic malignant toxidrome. Patients who take several substances may have a

mixed toxidrome. For example, a patient who "speedballs" cocaine and heroin may have features of both the opioid and sympathomimetic toxidromes. Conclusion: Like all clinical syndromes, patients almost never exhibit every single feature of a particular toxidrome. When diagnosing a patient with a specific toxidrome you are looking for the one which best fits.

Keywords: Poisoning, Toxidrome, toxic syndrome

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HYPERTENSION IN PREGNANCY: CHALLENGES IN THE MANAGEMENT

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Pregnancy is a cardiovascular and metabolic challenge to the human female body.During pregnancy, systemic vascular resistance and blood pressure decrease, whereas cardiac output and blood volume increase to safeguard an adequate circulation in the utero-placental arterial bed.Hypertensive disorders of pregnancy affect approximately from 5 to 10% of all pregnant women, and are the main contributors of maternal and neonatal morbidity and mortality worldwide. Hypertension in pregnancy includes a wide spectrum of conditions, including pre-eclampsia and eclampsia, pre-eclampsia superimposed on chronic hypertension, chronic hypertension, and gestational hypertension. Endothelial dysfunction, oxidative stress and an exaggerated inflammatory response are features related to hypertensive disorders. To reduce the risk of maternal and foetal complications due to haemodynamic maladaptation, the current management includes rest at home or in the hospital, closes monitoring of maternal and foetal signs and symptoms, early start of antihypertensive therapy, and timely delivery regarding maternal and foetal survival chances. Thresholds to initiate blood pressure lowering treatment during pregnancy are 160 mmHg systole or 110 mmHg diastole. Below these thresholds, treatment must be individualized because current evidence does not support aggressive medical interventions. Alpha-methyldopa and dihydropyridine calcium channel blockers are among the recommended antihypertensives. The major goal is to prevent maternal complications without compromising uteroplacental perfusion and fetal circulation. Before an antihypertensive agent is prescribed, the potential risk to the fetus from intrauterine drug exposure should be carefully reviewed.

Keywords: Hypertension, pregnancy, pre-eclampsia, eclampsia.

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EMERGENCIES IN ONCOLOGICAL PRACTICE

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Oncological emergencies are defined as an acute life-threatening event in a patient with a tumor occurring as part of their complex treatment regimen or secondarily to their underlying malignancy. These events can occur at any time from the initial diagnosis of their cancer to endstage disease; and can be encountered in any clinical setting, ranging from primary care physician and emergency department visits to a variety of subspecialty environments. Oncologic emergencies are clinical situations that can lead to death in a short time (24-48 hours) if not quickly faced. In the clinical practice of the medical oncologist, such situations do not infrequently occur. The onset of oncologic emergencies may depend on the presence of cancer itself, the therapies carried out to counteract cancer, or the patient's predisposition to develop such events. It is essential to recognize the aforementioned situations early in order to treat them promptly, thus avoiding serious consequences. Therefore, it is critically important that all physicians have a working knowledge of the potential

oncological emergencies that may present in their practice and how to provide the most effective care without delay. Nervous system emergencies include spinal cord compression, raised ICP, leptomeningeal disease, seizures and altered mental status whereas superior venacaval syndrome, hyperviscocity syndrome, hyperleukocytosis, venous thrombo-embolism, Hemorrhage and DIC are the vascular and haematologic emergencies. Several classic metabolic oncologic emergencies include syndrome of inappropriate antidiuretic hormone secretion, tumor lysis syndrome and hypercalcemia of malignancy. Among the pulmonary problems airway obstruction, massive haemoptysis, toxic lung injuries, pneumonitis and pulmonary fibrosis can be caused by cancer and cancer treatment. Urologic emergencies such as hemorrhagic cystitis and obstructive uropathy are also seen. Gastrointestinal bleeding in patients with cancer and typlitis in patients with neutropenic fever are potentially serius complications also. Immune check point inhibitors may cause irAEs in practically any organ system ranging from SJS, TEN, thyroiditis, hypophysitis, adrenilitis, diabetic ketoacidosis to life threatening pneumonitis and myocarditis which may be associated with poor overall survival. Oncologic emergencies can threaten the well-being of almost any patient with a malignancy. Although some of these conditions are related to cancer therapy, they are by no means confined to the period of initial diagnosis and active treatment. In the setting of recurrent malignancy, these events can occur years after the surveillance of a cancer patient has been appropriately transferred from a medical oncologist to a primary care provider. As such, awareness of a patient's cancer history and its possible complications forms an important part of any clinician's knowledge base. Prompt identification of and intervention in these emergencies can prolong survival and improve quality of life, even in the setting of terminal illness.

Keywords: Emergencies in oncology, oncological practice.

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CANCER PAIN: WAY TO OVERCOME

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Cancers are among the leading causes of morbidity and mortality worldwide. Cancer itself or cancer treatment often causes pain which can affectthe quality of life. Cancer pain management is an essential part of cancer treatment and palliative care. Cancer patients may require pain management at any stage of their disease, not only at the end. Expert opinion and statistics from country experiences from numerous low-income countries, where treatment coverage is typically inadequate or non-existent, indicate that around 80% of cancer patients feel moderate or severe pain that lasts on average 90 days. As a result, cancer pain is a major source of avoidable unnecessary suffering. Cancer pain management plans often involve pharmacological and non-pharmacological therapies and psycho-social and spiritual support. Palliative care and pain management are critical components of Universal Health Care. The medical use of narcotic drugs is essential for the treatment of pain and suffering. Therefore appropriate provisions must be made to assure their availability for such purposes. Some obstacles exist that limit the appropriate management of cancer-related discomfort. Communication difficulties, lack of pain management training and education, ethnic/cultural/religious disparities, opiophobia among health professionals and the general public, and restricted availability to opioids are the primary barriers to successful cancer pain treatment. To combat cancer pain and reduce the suffering of these incurable people, education and training of health professionals on cancer pain management, provision of suitable holistic supports, opioids should be made accessible and available, and general awareness development are some examples. All government and non-government players must come forward and work together to win this battle.

Keywords: Cancer pain, pain management

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ELIMINATING OF HCV: A TREATMENT UPDATE (HCV MANAGEMENT: RECENT UPDATES)

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Background: Hepatitis C virus (HCV) has been a major public health threatboth worldwide and in Bangladesh due to itsconsiderable disease burden, morbidities, and death. An individualized, cost-effective, standard treatment regimen can help combat and eliminate HCV once and for all. **Methods:** This is an executive summary of the latest EASL (European Association for the Study of the Liver) recommendationsbased on existing literature, and clinical expertise from a panel of specialists chosen by the EASL Governing Board. Additionally, author's clinical experience is undertaken for considering country level context. **Results:** HCV infection requires personalized treatment, based on factors such as genotype, liver fibrosis stage, and comorbidities. Direct-acting antiviral (DAA) regimens have replaced interferon, and are recommended as the first-line treatment for all patients with chronic HCV infection, irrespective of genotype. It is recommended to initiate treatment as soon as possible to prevent the progression of liver disease, and associated complications. For patients with decompensated cirrhosis, liver transplantation should be considered as a treatment option after weighing risk-benefit. Additionally, the management of special populations such as children, pregnant women, lactating mother, HCVpatients co-infected with HIV, HBV or SARS-CoV-2, patients with renal impairment, haemoglobin-opathies or bleeding disorders require special attention. Monitoring patients during and after treatment is recommended to ensure sustained virologic response (SVR), to detect any potential complication, and to check potential HCV reinfection. **Conclusion:** The EASL recommendations provide a comprehensive overview on personalized treatment of HCV, and monitoring for optimal patient outcomes, ushering high hopes for HCV elimination in the future.

Keywords: HCV, treatment, update, elimination

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MANAGEMENT OF FATTY LIVER: WHAT EVIDENCE SAYS?

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Fatty liver is a global pandemic and Bangladesh is no exception. Specially high prevalence of diabetes, improved socio-economic condition is contributing to the growing trend of fatty liver in Bangladesh. Currently there is no definite pharmacologic therapy for fatty liver although some drugs are showing promise and as of now life style modification remains the only option. Bangladesh has a rich heritage of traditional medicine with coexistence of Hekimi or Muslim and Ayurveda or Hindu traditional medicines within the political boundary of today's Bangladesh. However today's unfortunate reality remains that in Bangladesh, we have not been able to retain our glory. It is now one of our principal research focuses to revive our traditional herbal medicine. We have already demonstrated the beneficial effects of *Glycyrrhiza Glabra* (joshtimodhu) in end stage hepatocellular carcinoma. Currently we are focusing on non-alcoholic fatty liver disease. We are exploring the prospects of Kalmegh (*Andrographispaniculata*), Milk thistle (*Silybummarianum*), Arjun (*Terminaliaarjuna*) and Moringa (*Moringaoleifera*). We are collaborating with a galaxy of public-private universities in our humble effort to revive our glory. Our initial experience with Kalomegh in fatty liver is encouraging.

Keywords: Fatty liver, global pandemic

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ACUTE PANCREATITIS: EARLY MANAGEMENT

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Abdominal pain caused by acute pancreatitis (AP) is not uncommon in day to day medical practice worldwide. AP is the sudden inflammation of the pancreas, and it may be confined to the pancreas, or may be more life-threatening, affecting all organs and systems. It progresses mildly in 80% of patients and

resolves with treatment, but in cases of severe AP, with mortality of around 30% has been recorded. AP is most often established by clinical symptoms and at least threefold raised enzymes and by imaging (any two of these three).In the management AP, treatment is mainly related to the severity of the disease and approaches are constantly being updated. With early diagnosis and treatment, most of the patients can be discharged, and the development of complications and mortality can be reduced. Hemodynamic status should be assessed immediately upon presentation and resuscitative measures begun as needed. Early targeted fluid therapy within the first 48 h is critical to improve the outcome of severe AP. Patients with organ failure and or SIRS should be admitted to an ICU /HDU whenever possible. Emergency management decision are early fluid management strategy, utility and timing of antibiotics, the timing and type of nutritional support and in relevant cases endoscopic retrograde cholangiopancreatography (ERCP) and cholecystectomy approachescan change the course of the disease and the length of stay in the hospital. Therefore, emergency management is important.Enteral nutrition is recommended to prevent infectious complications, whereas parenteral nutrition should be avoided.Routine use of prophylactic antibiotics in patients with severe AP and or sterile necrosis is not recommended.In patients with infected necrosis, antibiotics known to penetrate pancreatic necrosis may be useful in delaying intervention, thus decreasing morbidity and mortality. Successful clinical management requires close interdisciplinary cooperation and coordination from experienced gastroenterologists, intensive care physicians, surgeons, and radiologists.

Keywords: Acute pancreatitis, endoscopic retrograde cholangiopancreatography,enteral nutrition

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CHALLENGING THYROID CASES IN CLINICAL PRACTICE

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Thyroid disorders are prevalent, and their manifestations are divergent and sometimes it is very challenging to diagnose and deal with some Thyroid cases in clinical practice. Here seven different challenging cases will be discussed that will help clinicians to diagnose and treat such cases in day-to-day clinical practice. First case enlightened us that Thyroid function should not be assessed in seriously ill patients unless there is a strong suspicion of thyroid dysfunction, since there are many other factors in acutely or chronically ill euthyroid patients that influence thyroid function tests. The second case taught us that there is assay interference with Biotin ingestion and patients taking Biotin should hold the supplement for two days prior to assessing thyroid function. Subacute thyroiditis is a self-limiting inflammatory condition of the thyroid gland and COVID-19 virus infection may be associated with subacute thyroiditis as a complication that may occur in patients without any previous thyroid disorder that is revealed in third case. In Secondary hypothyroidism/Hypopituitarism, TSH may be low, normal, or even slightly elevated due to inactive TSH isoform in blood. The fourth case shows us that only TSH testing in clinical practice leads to missing Secondary hypothyroidism/Hypopituitarism. Learning from fifth case is that during monitoring of thyrotoxic patients taking ATDs, serum TSH may remain suppressed for several months after starting therapy and it is therefore not a good parameter for monitoring therapy early during treatment, rather we should rely on FT4 and FT3. The sixth case enlightened us that in case of low TSH in early pregnancy, Gestational transient Thyrotoxicosis should be excluded which is commonly associated with hyperemesis gravidarum with no prior history of thyroid disease, no stigmata of Graves' disease (Goiter, ophthalmopathy) and a self-limited mild disorder. In poorly compliant patients, there may be a combination of high FT_4 and high TSH that is revealed in the seventh case.

Keywords: Challenging Thyroid Cases, Thyroid disorders, Clinical Practice

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IMMUNE-MEDIATED THROMBOCYTOPENIA IN ADULTS: TREATMENT UPDATES

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Immune Thrombocytopenia (ITP) is an acquired low platelet count resulting from immune-mediated platelet destruction and/ or impaired platelet

production. Primary ITP is idiopathic and secondary ITP is associated with another conditions. The incidence is 1 to 6 per 100,000 adults. ITPmay present without symptom or present with bleeding. Bleeding manifestations are minor (skin/mucous membrane), critical (e.g. intracranial, intraocular, retroperitoneal, intramuscular bleeding etc) and severe (fall in hemoglobin of 2 g/dL or requires transfusion of e"2 units of red cells).ITP is diagnosed on the basis of isolated thrombocytopenia without anemia or leukopenia. There are no reliable laboratory tests to confirm the diagnosis. The aim of treatment of ITP is to provide a safe platelet count to prevent bleeding, rather than to normalize the platelet count. Treatment options of ITP are the First-line therapies, second-line therapies and therapies. First-line therapy are for patients with severe bleeding and platelet count <30x10^9/L, which includes platelet transfusion, glucocorticoids (e.g. methylprednisolone, 1 g IV, daily for 3 doses; or dexamethasone, 40 mg orally or IV, daily for four days), IVIG and IV globulin. Second-line therapy is indicated for patients with thrombocytopenia associated with significant bleeding or for severe, persistent or recurrent thrombocytopenia (e.g., platelet count <20x10^9/L) following glucocorticoid-based treatments. Second-line therapies include splenectomy, rituximab, thrombopoietin receptor agonist or immuno-suppressive therapy. Other therapies include danazol, vincristine, procarbazine, etoposide etc, or combination therapy. Indications of treatment are (1).Severe bleeding and platelet count <30x10^9/L. (2). Newly diagnosed ITP and any clinically important bleeding (3) Newly diagnosed ITP and platelet count <20x10^9/L, even in absence of bleeding (4) Patients with platelet counts >30x10^9/L having risk of bleeding, other hemostatic defects or require surgery.Spontaneous remission occurs in up to 10% of adults with ITP.

Keywords: Immune-Mediated Thrombocytopenia, thrombocytopenia, leukopenia

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BONE MARROW TRANSPLANTATION: PRE AND AFTER CARE

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Worldwide, Hematopoietic stem cell transplantation is one of the curative options of treatment for hematological malignancies and other hematological diseases. In few recent years, in Bangladesh, Hematopoietic stem cell transplantation (HSCT) has started and improved significantly, especially in patients with hematological malignancies & non-malignant hematological diseases. As one of the leading BMT Center, CMH Dhaka has started BMT 8 years ago with the successful case of Allogeneic Bone Marrow Transplantation (Allo-HSCT) which was first time in Bangladesh. It was a historic event and landmark achievements in the history of Medical Science of Bangladesh as Allo-HSCT Bone Marrow Transplantation comparatively have a higher risk of life-threatening complications than Auto-HSCT. Till date, Dhaka CMH BMT Center has successfully completed 65 Bone Marrow Transplantation (48 Auto-HSCT & 17 Allo-HSCT). It is an amazing milestone and advancement in medicine of Bangladesh. A series of tests (Like-Hematological profile, Extensive infection screening, Heart function test, Lung function test, Bone Marrow Study, Bone density scan, PET-scan, CT-scan, Chest X-ray, HLA Typing etc.) and procedures can assess general health and the status of patient's condition. The tests and procedures also ensure that patient is physically prepared for the transplant. The evaluation may take several days or more.

In the days and weeks after bone marrow transplant, BMT specialists do blood tests and other tests to monitor patient's condition. They may need medicine to manage complications, such as nausea and

diarrhea. After bone marrow transplant, the patient remains under close medical care. If a patient experiencing infections or other complications, he/she may need to stay in the hospital for several days or longer for close monitoring. Patients may need periodic transfusions of red blood cells and platelets until bone marrow begins producing enough of those cells on its own. Patient needs follow up and Transplant Physician supervision till death.

Keywords: Bone Marrow Transplantation, Hematopoietic stem cell transplantation Allogeneic Bone Marrow Transplantation

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MODERN INSULIN, DEVICE, AND TECHNOLOGY: TIPS FOR CLINICIANS

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Insulin has been a lifesaving treatment for people with diabetes since its discovery in 1921. However, the way insulin is delivered evolved over time. Modern insulin, devices, and technology have transformed the management of diabetes and improved the quality of life for millions of people worldwide.Modern insulins are designed to match the needs of people with diabetes better. Traditional insulins, such as regular and NPH insulin, have a delayed onset and peak, making it difficult to manage blood sugar levels. Newer insulins, such as rapid-acting insulin analogs like aspart, glulisine, and lispro, have a faster onset and shorter duration of action, allowing for greater dosing and timing flexibility. Long-acting insulin analogs, like glargine and detemir, provide more consistent blood sugar control and less hypoglycemia risk.Insulin delivery devices have also advanced significantly. The most common device is the insulin pen, which looks like a large pen and uses disposable insulin cartridges. The pen has replaced traditional syringes and vials for many people with diabetes, offering greater convenience and ease of use. Insulin pumps are also becoming more popular, especially among people with type 1 diabetes. A pump delivers insulin through a catheter inserted under the skin, which can be programmed to provide a continuous infusion of insulin or a bolus dose before meals.Technological advancements have also revolutionized diabetes management. Continuous glucose monitoring (CGM) systems use a small sensor inserted under the skin to measure glucose levels every few minutes, providing real-time data to help people make more informed decisions about insulin dosing and food choices. Some CGM systems also offer alerts for high and low blood sugar levels, making it easier to avoid dangerous fluctuations. Automated insulin delivery systems, also known as closed-loop systems or artificial pancreas systems, use CGM data to automatically adjust insulin delivery, reducing the burden of constant monitoring and decision-making for people with diabetes.In summary, modern insulin, devices, and technology have greatly improved the management of diabetes, allowing for better blood sugar control and a better quality of life for people with diabetes. As technology continues to advance, the future of diabetes management looks promising.

Keywords: Modern Insulin, Continuous glucose monitoring, Tips for Clinicians

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CHILDHOOD OBESITY: SEQUELAE IN ADULT LIFE

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Childhood obesity is a growing global health hazard extending to adulthood. The prevalence of obesity in children in developed and developing countries has risen dramatically in the past few decades and is currently at epidemic proportions. Obese children and adolescents were around five times more likely to be obese in adulthood than those who were not obese. Adiposity rebound in early childhood is a risk factor for obesity in adolescence and adulthood. Numerous

sequelae are associated with children being overweight or obese, even at a very young age. Obesity in childhood and adolescence is significantly associated with an increased risk of insulin resistance, type 2 diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, non-alcoholic fatty liver disease, and obstructive sleep apnea. Obese children are more likely to experience psychological morbidity, lower self-esteem, and more behavioral problems than non-obese children. These comorbid conditions may progress to adult life and the development of atherosclerosis, cerebrovascular disorders, and cardiovascular morbidity later in life. Obese children are more likely to become obese adults and suffer lifelong physical and mental problems and risk of premature mortality. The use of infant formula, decreased physical activity, excessive calorie intake, and changes in gut microbiota patterns are associated with the increasing prevalence of childhood obesity. Efforts will be focused on trying to treat obesity itself and, therefore, prevent progression to overt sequelae, either in childhood or later in adult life. The most important strategy for preventing obesity and sequelae is lifestyle modification which includes healthy eating behaviors, regular physical activity, and reduced sedentary activity.

Keywords: Childhood obesity, adult life
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DELAYED PUBERTY: HOW TO APPROACH?

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Disorders of puberty can profoundly impact physical and psychosocial well-being. Delayed puberty is the absence of breast development in girls by 13 years of age and absence of testicular growth to at least 4 mL in volume or 2.5 cm in length in boys by 14 years of age. Hypogonadism occurs when there is a disruption in the hypothalamic-pituitary-gonadal axis. Two categories of delayed puberty are: hypergonadotropic (primary) hypogonadism and hypogonadotropic (secondary) hypogonadism. The etiology of delayed puberty varies from relatively benign to life threatening conditions, which may be either congenital or acquired. Constitutional delay of growth and puberty is the commonest cause of delayed puberty, which is a diagnosis of exclusion. There is a notable delay in puberty but eventually progress through normal stages of puberty. History concerns about stature are often present and a familial pattern of inheritance is usually present. Delayed bone age but corresponding to height age helps in diagnosis. Reversible hypogonadotropic hypogonadism may be observed due to associated conditions including chronic malnutrition, systemic disease, untreated hypothyroidism, hyperprolactinemia, anorexia nervosa. Permanent causes include structural damage either to hypothalamic-pituitary axis or linked to the sexual organs of the individual. Complete physical examination should include proper anthropometry, pubertal staging and assessment to look for any signs of chronic illness or stigmata of syndromes. In laboratory analysis, hypogonadotropichypogonadism (pHH) showing low serum testosterone or estradiol and blunted follicle-stimulating hormones (FSH) and luteinizing hormones (LH) levels may be due to abnormalities in the central nervous system. Magnetic resonance imaging is necessary to exclude morphological abnormalities and neoplasia. Low serum testosterone in male patients and low estradiol values in female patients, associated with high serum FSH and LH levels, suggest a diagnosis of hypergonadotropic hypogonadism due to dysfunction of peripheral sex organs. Abnormal growth velocity necessitates assessment of serum thyroid function, prolactin, and insulin like growth factor-1. Karyotyping can reveal a chromosomal abnormality like Turner syndrome or Klinefelter syndrome. Beside reassurance, in cases where the adolescent with CDGP is experiencing psychological difficulties, short courses of sex hormones may be used to allow individuals to catch up with their peers. Definitive treatment for underlying cause is worthy where possible. Long-term hormone replacement therapy is recommended for permanent causes of delayed puberty.

Keywords: Delayed puberty, hypogonadism hypogonadotropichypogonadism,

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DIFFICULTIES IN TREATING DERMATOPHYTES: A WAY TO OVERCOME

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Superficial dermatophytosisis currently caused by dermatophytes belonging to three genera, namely Trichophyton, Microspurum and Epidermophyton. In recent years, superficialmycosis have becomeincreasingly resistant to current antifungal treatment. Multiple incidences of chronic infections, reinfections and treatment failure have been reported. The epidemiological shift from T, rubrumtoT. mentagrophytes/ T. interdigitalis are the dominant pathogen in recent tenea patients. Limitation of available approved antifungals for dermatophytosis treatment and difficulties or unavailability of culture and sensitivity test for fungus also contribute to difficulties in treatment outcome.The change in the clinical scenario with increasing frequency of treatment failure gives rise to innumerate treatment options based on individual experience from case by case. We focus on treatmentschedule given in standard textbooks and the current modifications that have evolved to treat the dermatophytosis.

Key words: Dermatophytosis, re-infection, treatment failure, individual approach

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LASER THERAPY IN DERMATOLOGY: HOPES OR HYPE?

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Laser therapy is a newly adopted surgical option in Dermatology. Targeted photo-thermolysis with minimal injury to the surrounding tissue is the principle of laser therapy. It became popular in affluent society for its aesthetic use. Regarding rejuvenation, pigmented lesions, and unwanted hair removal laser therapy is superior to other available options. Laser therapy is an excellent option for vascular lesions like hemangioma, telangiectasia, and port wine stain. The most commonly used laser is CO_2laser. It can be used to ablate growth and resurface scars and wrinkles. The advantages of laser therapy over conventional surgery are less chance of bleeding, scarring, and infections. Laser therapy is a unique option for tattoo removal. In many dermatological diseases, laser therapy shows some glimpses of light where other options failed. In every aspect laser therapy is a modern smart way to treat skin problems. But it is costly and not reachable to common people. There is a false belief in patients that lasers can cure all skin diseases. Practically a minor portion of skin diseases can be managed by laser therapy. Only laser cannot change your skin according to your expectation rather you need filler, botulinum toxin, chemical peel, medications, and sometimes plastic surgery along with laser therapy.

Keywords: Laser Therapy, Dermatology, Targeted photo-thermolysis

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BIOLOGICS IN RHEUMATOID ARTHRITIS: WHEN & WHY?

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Among the autoimmune rheumatic diseases RA is common. Not only articular extra-articular manifestations are common including involvement of skin, ocular, haematological, pulmonary and renal systems. A heightened cardiovascular risk also exists which closely follows disease activity stresses to obtain remission or low disease activity. Therapeutic landscape of RA treatment most significantly shiftedwith the introduction of biological disease

modifying anti-rheumatic drugs (bDMARDs). There are five classes of bDMARDs currently available, each with a different molecular target and subtle differences in their efficacy and safety profile. Patient with poor prognostic factors and failed to csDMARDs are the candidate of anti-TNF agents and or other biologics. Clinicians should screen for latent infections with hepatitis B and C serology, chest radiograph plus interferon gamma release assay or tuberculin skin test. In the indicated cases, HIV serology should be requested as well. To reduce infection risk, guidelines specify that patients on bDMARDs should continue with national vaccination schedules including influenza and pneumococcal immunisations as well as the HPV vaccine for cervical cancer. Live attenuated vaccines (like, live herpes zoster vaccine, yellow fever, measles, mumps, rubella), are contraindicated in patients taking a bDMARD. The contraindications of anti-TNF agent's initiations are serious or untreated infections including TB, current malignancy, multiple sclerosis, severe heart failure and hypersensitivity. In case of tocilizumab contraindications are serious or untreated infections, hypersensitivity and diverticulitisand for rituximab reactivation of hepatitis B.Co-administration of one class of bDMARD with another from a different class is not recommended due to an increased risk of infection. A DAS28 reduction of <1.2 should be considered as improvement at 3 and 6 monthvisits. A close monitoring is advocated for the adverse effects of biologic agents. TNF inhibitors may be continued during pregnancy. Rituximab, abatacept and IL-6 inhibitors are not safe in first trimester.

Keywords: Biologics, Rheumatoid Arthritis, bDMARDs

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OSTEOPOROSIS: RECENT ADVANCES

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Osteoporosis is characterized by low bone mass, microarchitectural disruption, and skeletal fragility, resulting in decreased bone strength and an increased risk of fracture. Decreased bone strength is related to many factors in addition to bone mineral density (BMD), including rates of bone turnover, bone geometry, and microarchitecture.Osteoporosis has no clinical manifestations until there is a fracture. Complications of fractures include pain, deformity, disability, and loss of height. A clinical diagnosis of osteoporosis may be made in the presence of a fragility fracture, particularly at the spine, hip, wrist, humerus, rib, and pelvis, without measurement of BMD.In the absence of a fragility fracture, BMD assessment by dual-energy x-ray absorptiometry (DXA) is the standard test to diagnose osteoporosis, according to the classification of the World Health Organization. A DXA T-score d"-2.5 is consistent with osteoporosis, whereas a T-score between -1 and -2.5 isosteopenia.All postmenopausal women with osteoporosis should have a history, physical examination, and basic laboratory evaluation. Initial laboratory studies should include a complete blood count (CBC), biochemistry profile, and 25-hydroxyvitamin D (25[OH]D).The need for additional laboratory evaluation depends upon the initial evaluation and Z-score. Women who have abnormalities on initial laboratory testing, suspicious findings on history and physical examination suggesting a secondary cause of osteoporosis, or Z-scores d"-2 may require additional evaluation for these secondary causes.Lifestyle measures should be adopted universally to reduce bone loss in postmenopausal women. Lifestyle measures include adequate calcium and vitamin D, exercise, smoking cessation, counseling on fall prevention, and avoidance of heavy alcohol use. In general, 1200 mg of elemental calcium daily, total diet plus supplement, and 800 international units of vitamin D daily are advised. Many patients require vitamin D supplementation as it is difficult to achieve goals with diet alone. Postmenopausal women with established osteoporosis (T-score d"-2.5) or fragility fracture be treated with a pharmacologic agent. For the treatment of high-risk postmenopausal women with T-scores between -1.0 and -2.5, better to start pharmacologic therapy. Most women, for the initial treatmentoral bisphosphonates is good choice.For severe osteoporosis, some experts prefer initial treatment with an anabolic agent, whereas other experts prefer initial treatment with bisphosphonates. Teriparatide and abaloparatide are good anabolic agent. Romosozumab is an alternative.

Keywords: Osteoporosis, bone mineral density

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SEPSIS: CURRENT CONCEPTS

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Sepsis is a life-threatening syndrome caused by an exaggerated host immune response to infection. Despite advances in diagnosis and treatment, sepsis remains a major global health concern, with significant morbidity and mortality rates. Current concepts in sepsis management emphasize the need for early recognition and treatment of the condition, with a focus on the optimization of fluid resuscitation, antibiotic therapy, and supportive care. Recent studies have shown that a multifaceted approach to sepsis management, involving a combination of pharmacological and non-pharmacological interventions, may improve outcomes. This approach includes the use of biomarkers for early diagnosis, goal-directed therapy to optimize resuscitation, and the implementation of protocols for timely initiation of appropriate antimicrobial therapy. Furthermore, recent studies have highlighted the importance of individualized patient care in sepsis, with a focus on tailoring treatment to the specific needs of the patient. There is also growing interest in the use of novel therapies for sepsis, such as immuno-modulatory agents, extracorporeal therapies, and stem cell therapies. These therapies have shown promising results in preclinical studies, and may provide new avenues for the treatment of sepsis in the future. Overall, the current concept of sepsis management emphasizes early recognition and intervention, individualized patient care, and a multifaceted approach to treatment. Further research is needed to identify optimal approaches to sepsis management and to develop novel therapies for this complex condition.

Keywords: Sepsis, immune response.

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APPROACH TO MULTIDRUG RESISTANT BACTERIAL INFECTIONS

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Several bacterial pathogens have evolved into multidrug resistant (MDR) forms both in developed and developing countries at an expanding rate. The World Health Organization has identified antimicrobial resistance as one of the three most important problems facing human health. It was estimated that 4·95 million deaths were associated with bacterial AMR globally in 2019.[1] Three infectious syndromes dominated the global burdens attributable to AMR: lower respiratory and thorax infections, bloodstream infections, and intra-abdominal infections. Some of the most important MDR pathogens that currently cause infection in hospital and in the community are the so-called "ESKAPE" pathogens (Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumanii, Pseudomonas aeruginosa, and Enterobacter species), emphasizing their capacity to "escape" the effects of routine antibiotics. Most of the MDR studies were heterogeneous in terms of study design, patient population, site of infection, choice of antibiotic treatment, duration of follow-up period, and the outcome definitions, making it difficult to compare the different treatments and combinations of antibiotics used. Current recommendations in Europe and USA are based on systematic reviews that suggest different methods to prevent and control MDR infections, but provide little data on new and alternative antibiotic treatment options and therefore provide little firm guidance on specific treatment choices and algorithms. Attempts are ongoing to overcome antibacterial resistance by using new agents and combinations of new plus old agents. For example, both old (clavulanic acid, tazobactam) and new (avibactam, vaborbactam, relebactam) BLIs are being used in treatment algorithm for critically ill patients in the ICU according to MDR pathogen. There were still controversies regarding microbiological success for single agent compared with combinations of multiple agents. Many bacteria have the ability to produce biofilms, comprising organized congregations of bacteria adhering to each other making complex condition where antibiotic failed to wipe out bacteria despite of retaining in vitro susceptibility. It is also

not always possible to conduct randomized controlled studies involving the required number of patients in a timely manner. So a requirement with the increasing choice of highly effective antimicrobial drugs, with dosages based on pharmacokinetic analysis of drug disposition, selection of the appropriate drug based on clinical microbiological data and pharmacodynamic indices. Rational antimicrobial therapy is more applicable today than in the history of antimicrobial therapy. Exploring newer modalities such as phage therapy and lytic antibiotics as well as obtaining a deeper understanding of the pathways involved in MDR mechanisms in order to engineer targeted drugs. Besides, rapid and comprehensive diagnostics are the key factor for the future management of antimicrobial resistance.

Keywords: Multidrug resistant bacterial infections, ESKAPE

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CROHN'S DISEASE AND INTESTINAL TUBERCULOSIS: ALLUSION AND ILLUSION

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Differentiating Crohn's disease (CD) and Intestinal tuberculosis (TB) is a diagnostic dilemma for most of the Clinicians in the developing world where ITB is endemic and CD incidence is increasing. These two granulomatus diseases are remarkably similar in their clinical, endoscopic, radiologic and pathologic features. The only exclusive features are caseation necrosis on biopsy, positive smear for acid-fast bacillus (AFB) and / or AFB culture, and necrotic lymph node on cross-sectional imaging in ITB. These exclusive features are limited by poor sensitivity (pauci bacillary disease) and nonspecific diagnostic criteria for CD.However, ITB is potentially curable whereas CD is incurable disease. But rate of misdiagnosis of CD and ITB range between 50% and 70% worldwide. An incorrect diagnosis and treatment may increase complications, morbidity and mortality. A high index of suspicion and critical analysis of clinical, endoscopic, histologic, microbiologic, radiologic and serologic features are required for differentiation between CD and ITB. However, therapeutic anti-tubercular therapy (ATT) trial is still required in a significant proportion of patients to establish the diagnosis.

Key words: Crohn's disease, Intestinal tuberculosis, Differentiation.

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TREATMENT OF TUBERCULOSIS IN SPECIAL SITUATIONS

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Treatment of Tuberculosis in special situations implies overcoming special challenges in patients with diabetes, pregnant women, people aged over 65 years, and those with chronic kidney or liver disease.Rifampicin is a potent hepatic enzyme inducer, may lower plasma levels of sulphonyl urea and can increase the hypoglycemic effect of metformin. Since insulin is not metabolized, no pharmacokinetic interactions with anti-TB drugs occur. Gastrointestinal upset and hepatitis are reported as the most frequent adverse events in older people. In patients >80 years,pyrazinamide may be omitted. In TB patients with chronic kidney disease (CKD), an inappropriate dosage of anti-TB drugs can result in

unsuccessful treatment or side effects. Current guidelines for first-line anti-TB drugs therefore recommend that dosages of ethambutol (EMB) and pyrazinamide (PZA) be adjusted according to patient renal function and body weight, although no change in dosage is necessary for patients with mild renal insufficiency . However, it remains unknown how the renal function-based dosage adjustments recommended by the guidelines affect efficacy outcomes for TB patients with CKD. In chronic liver disease (CLD) patients, The Child–Turcotte–Pugh (CTP) score can be used as a guide for designing appropriate regimens. In stable CLD (CTP d"7), a treatment regimen including isoniazid, rifampicin, and ethambutol is recommended, a 2-month intensive phase with the three drugs, followed by isoniazid and rifampicin continuation phase for 7 months partially liver-sparing regimen consisting of Ethambutol, Rifampicin, and a quinolone for 9 months is advisable in case of more severe CLD (CTP 8–10).If CLD is very advanced (CTP £11), a total liver-sparing regimen consisting of Ethambutol and a quinolone (Levofloxacin or Moxifloxacin) for 12 months.

Keywords: Tuberculosis, special situations, chronic kidney disease, chronic liver disease

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CHRONIC OBSTRUCTIVE PULMONARY DISEASE – RECENT UPDATES

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Chronic Obstructive Pulmonary Disease (COPD) is one of the leading causes of death and disability globally as well as in Bangladesh. Continuing research is essential to combat the threat posed by rising prevalence of COPD. Here we present recent updates in the field of COPD research. The revised definition of COPD emphasizes COPD as a heterogeneous disease affecting the bronchi, bronchioles, alveoli and pulmonary vasculature. The traditional view of COPD as a smoker's disease with a late onset has been replaced by the new concept of COPD etiotypes, which recognizes the contribution of developmental, genetic, environmental, infective and idiopathic contributions to COPD. Vaping has also been proposed as a risk factor for COPD. Two precursors to COPD – pre-COPD and PRISm – have also been proposed to highlight the opportunity of early detection and management. Clinical classification of COPD has been updated to the simplified ABE approach. New recommendations for treatment prioritize the initial use of a fixed dose LABA+LAMA combination. A more judicious use of ICS in COPD patients is recommended, in those with specific indications (exacerbation-prone, high eosinophil counts, or concomitant asthma). In this population, single-inhaler triple-therapy of LABA-LAMA-ICS has replaced previous recommendations of LABA-ICS. A strong emphasis has been placed on appropriate, individualized choice of inhaler device and training on technique for each patient. Interventional pulmonology and minimally invasive surgery also have a growing role in management of selected patients. Small airways disease is a key cause of morbidity in COPD. Newer diagnostic techniques, such as impulse oscillometry, and novel drug formulations (extra-fine particles, co-suspension forms, soft mist inhalers) are under study. The monoclonal antibody dupilumab has also shown promise in reducing COPD exacerbation. Finally, COPD is a multisystem disease and any management plan must include steps to identify and treat associated co-morbidities.

Keywords: COPD, smoker's disease, LABA, LAMA

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NEUTROPENIC SEPSIS AND CHALLENGES TO COMBAT

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Neutropenic sepsis (NS) is a common and predictable complication of bone marrow disorders and cytotoxic chemotherapy. After intensive chemotherapy, the incidence of NS is about 70–100% during the neutropenic phase. Patients with neutropenia are

vulnerable to invasive infections, which can be rapidly overwhelming, causing septic shock and death. The epidemiology of sepsis in industrialized countries is mainly influenced by the age of the population and the increasing prevalence of comorbidities, such as chronic organ dysfunctions, non-cancer-related immunosuppressive diseases, or cancer itself. Patients with cancer are at more than 10 times higher risk for sepsis than the general population, with some variability according to the cancer types. There is frequent frustration among physicians caring for patients with neutropenic sepsis. Infections are a frequent complication in leukopenic patients, affecting an estimated 24% of patients after chemotherapy for hematologic diseases or solid organ tumors. Bloodstream infections (BSIs) are the most frequent infection in febrile neutropenic, onco-hematological patients, with incidence rates spanning from 10% to 38%. Septic shock is the most severe clinical presentation form of such infections. This is becoming a cause for growing concern due to several factors. Rates of Gram-negative bacilli (GNB) in onco-hematological patients are progressively increasing. It is shown that ~50% of bacteremia in cancer patients was caused by GNB, among which almost 14% were MDR GNB. This could impact a greater percentage of patients presenting with septic shock. The widespread emergence and dissemination of multidrug-resistant Gram-negative bacilli, which are a common cause of infection and sepsis in patients with cancer, is of great concern. Several investigators have reported high rates of bacteremia due to extended-spectrum â-lactamase (ESBL)-producing Enterobacterales, MDR Pseudomonas aeruginosa (MDR-PA), and carbapenem-resistant Enterobacterales. Additionally, empirical antibiotic therapy is challenging in the era of emerging multidrug-resistant (MDR) GNB. Indeed, inappropriate empirical antibiotic therapy (IEAT) has been associated with increased mortality in patients with febrile neutropenia and BSI. Neutropenic sepsis is a medical emergency in which broad-spectrum antibiotics must be given without delay. Delaying treatment in neutropenic sepsis may increase the risk of death. â-Lactam/â-lactamase inhibitors (BL/BLIs) and carbapenems are often considered for the treatment of sepsis when the main suspected pathogens are Gram-negative bacteria, because of their broad spectrum of coverage. Ceftazidime avibactam is a new molecule available against these bugs. It is a novel combination of ceftazidime (third-generation cephalosporin) and avibactam (novel, non-â-lactam â-lactamase inhibitor) which covers ESBL isolates like E Coli & K. Pneumoniae, MDR Pseudomonas aeruginosa, and CRE. Ceftazidime and avibactam are now playing a crucial role in combating MDR gram-negative infections in sepsis patients. Many international guidelines recommend using early ceftazidime and avibactam in sepsis patients to achieve better outcomes and reduce volatility.

Keywords: Neutropenic Sepsis, Challenges**.**

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Scientific Paper Presentations

ABSTRACTS

EVALUATION OF THE EFFICACY AND TOLERABILITY OF A FIXED DOSE COMBINATION OF AMLODIPINE AND INDAPAMIDE IN PATIENTS OLDER THAN 55 YEARS

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Background: There is very limited real-life data on hypertension management in Bangladeshi population. Considering this fact, this study evaluated the effectiveness of treatment with an indapamide/ amlodipine single-pill combination (SPC) in Bangladeshi patients over the age of 55 years, in an OPD setting with uncontrolledsystolic hypertension in real-life clinical practice. **Methods**: This was a 3-month, multicenter, observational, open-label study conducted in 3 divisional cities of Bangladesh among patients with grade I or II hypertensions who were either uncontrolled on previous antihypertensive treatment or treatment-naïve. The effectiveness of indapamide/amlodipine SPC was assessed by the change in office systolic blood pressure (SBP) and the rate of target SBP (< 140 mmHg)achievement at 2 weeks, 1 month and 3 months, in four age groups: 55–59 years, 60–69 years, 70–79 years, and80 years or older. **Results**: The COMBINE study recruited 213 patients, of whom 185 took indapamide/amlodipine 1.5/5 mg SPC forafull three-month course of therapy.Mean age was 62.4±7.4 years, 76 men [41.1%] and 109 women [58.9%]. The absolute decrease of SBP during 3 months of taking indapamide/ amlodipine single-pill combination (SPC) was 27.7 mm Hg, DBP - 10.2 mm Hg.After 3 months of treatment significant SBPdecreases from baseline were observed in each age group:"29.9 mmHg (from 156.7 to 126.8),"25.1 mmHg (from 152.7 to 127.6),"26.1 mmHg (from 152.8 to 126.7),and " 24.5 mmHg (from 151.8 to 127.3)in the 55–59, 60–69, 70–79, and 80 years and older age groups, respectively. **Conclusion:** This COMBINE study results showed that indapamide/ amlodipine SPC was associated with significant and rapid reductions in BP even in a different age range of Bangladeshi patients in routine clinical practice. This study result is consistent with already achieved data of this SPC globally.

Keywords: Efficacy and tolerability, fixed dose Combination, amlodipine, indapamide

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NEONATAL SEIZURES AND NEURODEVELOPMENTAL OUTCOME

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Background: Neonatal period is the most vulnerable time for the occurrence of seizures. There are various etiological factors of neonatal seizures and increasing evidence suggests that neonatal seizures are associated with adverse neurodevelopment outcomes. The aim of the study is to determine of causes of

neonatal seizures with outcome during management and long-term post-natal outcome. **Methods:** This prospective study conducted in Rangpur Mother and Children Hospital from 1st July to 2017 to 30th June 2022. Term newborn babies admitted in NICU with convulsion were the samples. A prepared and pretested "Protocol" containing Part-A and Part-B was used - Part-A in neonatal intensive care unit and Part-B in the attached Disability Research Center

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PRECISION MEDICINE: AN EMERGING APPROACH FOR PATIENT CARE

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The philosophy behind contemporary healthcare is that one size fits all. Unfortunately, the outcomes of a standardized treatment regimen are not always uniform. That's where the concept of precision medicine comes in. According to the Precision Medicine Initiative, precision medicine is "an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle for each person." This approach allow doctors and researchers to predict more accurately which treatment and prevention strategies for a particular disease will work in which groups of people and is in contrast to a one-size-fits-all approach, in which disease treatment and prevention strategies are developed for the average person, with less consideration for the differences between individuals. Although the term "precision medicine" is relatively new, the concept has been a part of healthcare for many years. For example, a person who needs a blood transfusion is not given blood from a randomly selected donor; instead, the donor's blood type is matched to the recipient to reduce the risk of complications. The adoption of precision medicine will grow because its benefits to healthcare providers and patients are numerous. The highlighting ones are to shift the emphasis in medicine from reaction to prevention, predict susceptibility to disease, improve disease detection, preempt disease progression, customize disease-prevention strategies, prescribe more effective drugs, avoid prescribing drugs with predictable side effects and so on.The goal of precision medicine is to target the right treatments to the right patients at the right time. The short-term goals involve expanding precision medicine in the area of cancer research. Researchers at the National Cancer Institute (NCI) hope to use an increased knowledge of the genetics and biology of cancer to find new, more effective treatments for various forms of this disease. The long-term goals of the Precision Medicine Initiative focus on bringing precision medicine to all areas of health and healthcare on a large scale. Insufficient technologies, limited knowledge, and gaps in research are major obstacles to adding precision medicine to routine clinical care. Advances in precision medicine have already led to powerful new discoveries and FDA-approved treatments that are tailored to specific characteristics of individuals. Patients with a variety of cancers routinely undergo molecular testing as part of patient care, enabling physicians to select treatments that improve chances of survival and reduce exposure to adverse effects. Precision medicine will timely enable clinicians to integrate healthcare data with targeted assays and tests to identify and assess disease biomarkers and risks, determine actionable genetic variants in patients, obtain the entire picture of the metabolome, and map metabolites to disease pathways. Implementof precision medicine as a holistic approach, requires integration of genetic, genomic, clinical, environmental and life-style data using mechanistic models that are complex, and must be built from the ground up. The scientific approach would be to perform analysis of individual genomes giving rise to a new form of preventive and personalised medicine in healthcare. Availability of gene-based designer drugs, precise targeting of molecular fingerprints for disease, appropriate drug therapy, predicting individual susceptibility to disease, diagnosis, and treatment of illness are all a few of the many transformations expected in the decade to come.

Keywords: Precision Medicine, emerging approach, patient care

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UNNECESSARY PRESCRIPTION OF PROTON PUMP INHIBITORS (PPI): AN ANALYSIS OF INPATIENT DISCHARGE PRACTICES.

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Background: Proton pump inhibitors (PPI) have reportedly been used in inappropriate clinical settings, often leading to an increased risk of adverse effects, drug interactions, and costs. ***Aim:*** The aim of this study was to evaluate the appropriateness of PPI prescription on discharge of patients in medicine ward of a tertiary care hospital in Bangladesh. ***Methods:*** A cross-sectional study was done for 3 months in the department of medicine in a tertiary care hospital to evaluate the indications of PPI use, appropriateness of PPI use and types of PPI prescribed. A total of 107 patients who were prescribed PPI on discharge were enrolled after written informed consent and data were collected in a structured questionnaire. ***Results:*** Among the 107 patients discharged, 64 were males and 43 were females. The mean age was 51.3 ±17.6(SD) years.Among the study population, 49 were appropriately prescribed PPI and 58 were inappropriately prescribed PPI. Regarding indications, 53.1% received PPI for prevention of anti-platelet induced gastric erosion and 18.9% were prescribed PPI for no apparent reason. Age (p=0.199) and gender (p=0.605) was not significantly associated with the appropriate prescription of PPI.Of the various preparations of PPI prescribed, esomeprazole was prescribed in most of the discharged patients (56%). ***Conclusion***: This study demonstrates the existence of an over-prescription ofPPI. PPI prescription needs to be improved, thereby reducingdrug interactions, adverse effects and unnecessary economical expenses.

Keywords: Proton pump inhibitors (PPIs), prescription, overuse, indications

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THE ROLE OF PLASMA D-DIMER AS AN INITIAL DIAGNOSTIC BIOMARKER OF CEREBRAL VENOUS SINUS THROMBOSIS IN A TERTIARY LEVEL HOSPITAL, BANGLADESH – CASE CONTROL STUDY.

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Background: Cerebral venous sinus thrombosis (CVST) are an uncommon cause of stroke and is often more difficult to diagnose than usual causes of stroke.A number of studies have confirmed the usefulness of D-dimer level in CVST. The aim of the current study to evaluate the correlation of plasma D-dimer levels in diagnosis of CVST. **Methods:** This case-control study was conducted on 50 stroke patients and 50 healthy individuals as the control group who will attend in the Department of Neurology of Sir Salimullah Medical College & Mitford Hospital, Dhaka Bangladesh during one year (2021-2022) with new onset headache and presentations suggestive of CSVT will be included in the study. Every medical or surgical condition which causes an increase in D-dimer level was considered as exclusion criteria. **Results:** Among patient group, 28(56%) patients were females, while 22(44%) patients were males, and the mean of age was 37.7±11.8 years. Headache was the most frequent presentation that observed in 90% of the patients. The patient with focal neurological signs, papilloedema and seizures came next in 52%, 44% and 30% respectively. The average duration of the symptoms was 6.9 ±3.2 days. Overall, the mean plasma level of D-dimer in CVST patients and controls were 526.7± 97.34 ng/mL and 332.3± 53.71 ng/mL respectively (Table: 3). Independent t-test revealed a significant difference (t= 2.167, p= 0.029). According to cut-off value of the assay (400 ng/mL) there were 44 CVST patients (88%) who were positive for the test compared with 7 (14%) among controls (p< 0.001). Stratification of the study population according to

male revealed a wide gap between patient and control males (541.7± 114.9 ng/mL and 320.2±71.13 ng/mL respectively) with a significant difference (p= 0.017) (Table: 4). However, in females, this gap was narrower (530.4± 100.9 ng/mL in females with CVST and 349.7±92.5 ng/mL in healthy females) but still significant (p= 0.032). The test revealed that the area under the curve (AUC) was 0.879, 95%CI=0.807-0.95, p<0.001. The sensitivity and specificity of the test at cut off value of 400ng/mL were 0.88 and 0.86 respectively, indicating a very good discrimination value. The positive and negative predictive values of D-dimer in diagnosis of CVST were 86.27 % and 87.76% respectively. **Conclusion:** Our study suggests that measurement of D-dimer can be a reliable tool for diagnosis of CVST, especially in patients with acute and subacute disease.

Keywords: Plasma D-Dimer, Diagnostic Biomarker, Cerebral Venous Sinus Thrombosis

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SPOT URINE SODIUM TO POTASSIUM RATIO AS A TOOL TO ASSESS SEVERITY & MORTALITY AMONG PATIENTS WITH DECOMPENSATED CIRRHOSIS HAVING ASCITES

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Background: Decompensated cirrhosis (DC) of liver is considered as a systemic disease affecting the functions of several other organs. Renal function is an independent prognostic factor for patients with decompensated cirrhosis, but assessing renal function through glomerular filtration rate are not convenient, specially for routine use. Previous study found that spot urinary sodium to potassium ratio (UNa/K) was associated with renal dysfunction which influences the severity and outcome in decompensated cirrhosis of liver patients having ascites.The present study was aimed to determine the relation of the ratio of sodium to potassium in randomly collected urine samples (UNa/K) with severity of disease and mortality in decompensated cirrhosis having ascites. **Methods:** This longitudinal study was conducted at the Department of Gastrointestinal, Hepatobiliary and Pancreatic Disorders (GHPD), BIRDEM General Hospital, Shahbagh, Dhaka, Bangladesh, from July, 2019 to August, 2021. A total of 150 patients with a confirmed diagnosis of decompensated cirrhosis with ascites were enrolled in this study. A detailed history and thorough clinical examination were carried out in each patient, along with relevant investigations. Data collection was done through a structured questionnaire. Data were analyzed using the statistical software SPSS 23.**Results:** Age of the patients was 59.0±12.91(mean±SD) years, male predominance was observed (52%). The UNa/K ratio was 4.24±3.25(mean±SD) with a range of 0.42 to 18.46. Diagnostic accuracy of UNa/K ratio in the detection of severity and mortality was estimated by the receiver operating characteristic (ROC) curve. The AUC of UNa/K ratio was 0.608 and 0.640 for severity and mortality respectively. Sensitivity, specificity, PPV and NPV at cut-off 2.55 were 50.0, 66.0, 42.4 and 72.5; at 2.65 were 54.0, 66.0, 44.3, and 74.2; at 2.87 were 58.0, 62.0, 43.3, and 74.7; at 3.21 were 58.0, 58.0, 40.8, and 73.4 respectively for severity score(MELD). Patients with UNa+/K+ less than 2.87 or equal, had a significantly higher MELD score category (p= 0.02). At 3 months follow-up, 24.7% mortality was observed. Sensitivity, specificity, PPV and NPV at cut-off 1.62 were 51.4, 85.8, 54.3 and 84.3; at 1.79 were 54.1, 79.7, 46.5 and 84.1; at 1.83 were 59.5, 77.0, 45.8 and 85.3; at 2.87 were 58.0, 62.0, 43.3, and 74.7 respectively for mortality. The UNa/K ratio was statistically low among the patients who didn't survive (p<.05).

Conclusion: This study revealed that decreased ratio of spot urinary sodium to potassium was associated with the severity and mortality among decompensated cirrhosis of liver patients with ascites.

Keywords: Spot Urine, Sodium Potassium Ratio, Decompensated Cirrhosis, Ascites

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RUSSELL'S VIPER BITE AND ITS IMMEDIATE OUTCOME IN BANGLADESH

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Background: Russell's viper (Daboia russelii) is found in Asia, throughout Indian subcontinent, much of South East Asia, Southern China and Taiwan. Russell's viper was seemed to be rare in Bangladesh. Anecdotes suggest that Russell's viper (Daboia russelii) was an important cause of mortality in the 1920s, but no case of envenoming by this species has since been reported in Bangladesh. Russell's viper bite has been reported and it is the one of the common snake bite at Rajshahi region which has great morbidity and mortality as well. **Methods:** This is a prospective observational study was conducted in the Medicine department of Rajshahi Medical College Hospital. We treated total 171 patients from 2013 to December 2022. Russell's viper envenomation confirmed either by brought dead or live snake specimen, photograph, bedside 20MWBCT and other symptoms. **Results:** In the management of RV bite patient in the Rajshahi Medical College Hospital, we found that most of the patients are delayed in getting hospitalization after bite due to visit to traditional healer. In our study 96% were male, and 4% were female, mostly farmer and 90% bite site in the lower limb during work in the paddy field. The clinical presentation was pain and local swelling (100%), blood oozing from local site (77%), bruising (44%), haematuria (25%), hypotension (30%), oliguria and few with DIC. In lab findings, coagulopathy (24%), raised CPK (60%), 67% Patients had AKI (raised creatinine and RBC in urine), among them 50% needed dialysis. Few patients also develop multiorgan failure. All patients received polyvalent Anti-venomsupplied by GOB (Incepta Bangladesh Ltd.) which works against cobra, krait, Russell's viper bite. Despite maximum available support at RMCH, around 30% patient died. **Conclusion:** It's high mortality indicates that this polyvalent antivenom might not be working properly. We may need to increase the initial dose or we need to provide monovalent antivenom specific to RV in Bangladesh and early treatment at Upazila Health Complex to reduce the rate of death due to Russell's viper bite.

Key words: Russell's viper, Polyvalent Antivenom, AKI, RMCH

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SHORT-TERM OF MORTALITY IN ACUTE STROKE PATIENTS

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Background: Stroke is a major cause of disability and death. A significant number of patients with acute stroke dies within 30 days of developing stroke. The aim of the study was to determine the short-termmortality (within 30 days) in acute stroke patients. **Methods:** This was a cross-sectional study, carried out in the Department of Medicine of Rangpur Medical College Hospital. Date was collected for 6 months (from January to June). **Results:** During the study period, we studied of 248 acute stroke patients, among them 110 were hemorrhagic and 138 were ischemic. Mean age of the patients were 56.02 years in hemorrhagic stroke and 61.26 years in ischemic stroke. In case of hemorrhagic stroke, short term mortality was 45.5% (50), among them in hospital death was 88% (44) and majority of the deaths occurred

with in the first 7 days. Mortality was significantly higher among patients with larger hematomas (>60 cm3) compared to subjects with smaller hematomas (<30 cm3). Short term mortality was 18.1% in ischemic stroke. Infarction size more than 10 mm^2, total anterior circulation syndrome (TACS) and GCS less than 10 at presentation were significantly associated with short term mortality. **Conclusion:** Short-term mortality was high in acute hemorrhagic stroke than acute ischemic stroke. In hemorrhagic stroke larger hematoma, GCS at presentation, ventricular extension and in case of ischemic stroke size of the infarction, arterial territory involvement and GCS were predictor of mortality.

Keywords: Short-term, mortality, acute stroke

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FREQUENCY AND RISK FACTORS STRATIFI-CATION OF HYPERTEN-SION AMONG THE RURAL POPULATION OF BANGLADESH

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Background: One of major predictors of premature mortality and morbidity; and scarcity of epidemiological data regarding hypertension among the rural people in Bangladesh, the study has been designed to find out the frequency and risk factors stratification of hypertension among the rural people in Jashore, Bangladesh. **Methods:** A cross-sectional study recruited 1812 participants above 18 years attending on national hypertensive week of 2019 in Bagherpara and Keshabpur upazila (sub-district) health complex in Jashore, Bangladesh. 2020 International Society of Hypertension Global Hypertension Practice Guidelines had been demonstrated to classify hypertension. **Results:** Out of the total study population, the frequency of hypertension was 20.6% (Grade 1 and Grade 2 hypertensive patients 15.8% and 4.9% respectively), and high normal blood pressure was 9.0%. The mean age of the study population, Grade 1 hypertensive and Grade 2 hypertensive cohorts were 42 ±16, 49±15 and 51±14 years respectively with a male and female ratio was 1:2. Progressive rise of mean systolic and diastolic blood pressure occurred with increasing age. Age(p:<0.001), sex(p:0.004), occupation (p:<0.001), BMI(p:<0.001), family(p:<0.001) and past history (p:<0.001) of hypertension, sedentary life style(p:0.004), additional salt intake(p:<0.001) and smoking(p:0.011) were significantly associated with hypertension following bivariate analysis. Multivariate logistic regression analysis revealed that age after 50 years (AOR=1.866, 95% CI: 1.210-2.876), positive past history of hypertension (AOR=3.493, 95% CI: 2.676-4.558), additional salt intake (AOR=0.591, 95% CI: 0.453-0.770) and obesity (AOR=3.389, 95% CI: 1.830-6.274) were significantly associated with developing hypertension. **Conclusion:** High frequency of hypertension was found among the rural population in Bangladesh where a lot of significantly associated risk factors. The data would be helpful for the health policy makers dealing Non-communicable diseases to reach the sustainable goal and mitigate morbidity and mortality of cardiovascular diseases in Bangladesh.

Key words: Hypertension, incidence, risk factors, rural people.

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ROLE OF SERUM CA 125 LEVEL IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

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Background: Pulmonary tuberculosis (PTB) persists as a great public health problem in Bangladesh. Although many diagnostic tools are invented but the diagnosis continues to rely on smear microscopy, culture and chest radiography. Other non-conventional approaches include detection of immunological response and the search for biochemical markers. Cancer Antigen 125 (CA-125) was considered a promising one and have been reported in few instances. **Methods**: This study was a hospital based cross-sectional analytical study conducted at department of Medicine in Rangpur Medical college Hospital, Bangladesh for 24-months following approval of the protocol. Total 100 people with pulmonary tuberculosis either smear positive or smear negative gene X pert positive were selected and analysed in this study. Written informed consent were taken from all subjects. After taking written consent from each patient, detailed clinical history, physical examination and relevant investigations including serum CA 125 level were done for every patient. Reflection of CA 125 positivity were calculated on the basis of smear positive and smear negative gene X pert MTB/RIF positive pulmonary tuberculosis. Collected data were noted down in separate case record form. After removing consistency and compilation, final data analysis was done in the statistical program Statistical Package for Social Science (SPSS) version 23.0.P-value of <0.05 was considered to indicate statistical significance. **Results:** Of total 100 patients, mean age was 36.68 ± 12.57 SD (years) with slight male predominance with Male female ratio was 2.13:1. Overall elevated CA-125 was found in 88% cases with mean value 90.82 ± 74.28 IU/mL. Mean level of CA-125 among sputum smear positive cases 74.69±49.51 IU/mL (37-153 IU/mL). Among 50 smear negative gene Xpert positive cases, 24% had serum CA-125 level <35 IU/mL (19.73±11.86 IU/mL) and rest 76% had e"35 IU/mL (134.51±86.74 IU/mL). Smear negative & gene Xpert positive cases has statistically significant higher level of CA-125 cases in comparison to smear positive cases (P-value <0.05).**Conclusion:** More than two thirds of the pulmonary tuberculosis patients had higher level CA-125 and smear negative-Xpert positive cases had significantly higher level than smear positive cases.

Key Words: CA-125, Pulmonary TB, Smear positive, Gene Xpert.

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SAFETY AND EFFICACY EVALUATION OF THE OXYJET CPAP DEVICE COMPARED TO HIGH-FLOW NASAL OXYGEN FOR TREATING HYPOXEMIC COVID-19 PATIENTS IN GENERAL HOSPITAL WARDS: A RANDOMIZED CONTROLLED TRIAL

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Background: During the COVID-19 pandemic, general wards generally were capable of providing up to 15L/min of oxygen. Shortage of Intensive Care Unit (ICU) beds, High-Flow Nasal Oxygen (HFNO), and other intermediary devices have caused many premature deaths during the pandemic. During this period, we have developed OxyJet CPAP, a locally-made 3D printed continuous positive airway pressure (CPAP) device that can provide up to 60 liters/min of oxygen without electric power. This study assessed whether the OxyJet CPAP could be a non-inferior alternative to an HFNO device in COVID-19 wards. **Methods:** We performed an open-label, parallel-assignment, randomized controlled trial in 45 patients admitted to the general COVID-19/suspected wards of Dhaka Medical College Hospital (DMCH), Bangladesh, between April 17, 2021, and July 9, 2021. Eligible patients were confirmed/suspected COVID-19 aged between 18—65 with oxygen saturation (SpO2) between 85—90% while being treated with a non-rebreather mask at 15L/min of 100% oxygen. We used a computerized pseudorandom sequence generator for randomization. The sample size was calculated based on a non-inferiority margin of 1.5 days. Analysis was intention-to-treat. **Results:** The primary outcome of the trial was ventilator-free days (VFDs) within a 10-day period assessed after study completion. A total of 180 patients were screened, and 45 eligible patients were enrolled. We randomly assigned 23 (51.11%) patients to receive CPAP and 22 (48.89%) patients to receive HFNO. For the CPAP and HFNO arms, the mean value of the primary outcome was found to be 7.41 (STD 3.68) and 6.6 (STD

3.69) days, respectively. The mean difference in the primary outcome was 0.81 (95% CI -1.41—3.03), with the lower bound above the non-inferiority margin, thus, establishing the non-inferiority hypothesis (p = 0.021). Adverse events (AE) were recorded according to the Common Terminology Criteria for Adverse Events (CTCAE) scale (1—5). In the CPAP and HFNO arms, the mean CTCAE scale was found to be 1.39 (STD 0.499) and 1.59 (STD 0.503), respectively, showing no significant difference (p = 0.189). In Post Hoc analysis, we found that, on average, the OxyJet CPAP requires significantly less oxygen per patient compared to HFNO with a median difference of -16.11 L/min (95% CI -24.63—-6.67, p=0.001). **Conclusion:** The results show that the OxyJet CPAP treatment was non-inferior compared to the HFNO treatment. In the context of many hospitals in Bangladesh, especially in rural areas, using the locally made OxyJet CPAP could provide significant benefits due to its lower cost and usability. This device can be used as an effective bridging therapy reducing ICU admissions in the general ward settings or preserving life while awaiting resource availability. In addition, the device can also be used in emergencies and ambulances. The Directorate General of Drug Administration (DGDA) has provided limited approval of the device for hospital use. Currently, we are using the device in different hospitals for hypoxemic patients.

Keywords: Safety and efficacy OxyJet CPAP device, High-Flow Nasal Oxygen, hypoxemic COVID-19 patients,

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HUMORAL IMMUNE RESPONSE AGAINST SARS COV-2 INFECTION IN HOSPITALIZED COVID-19 PATIENTS AND HEALTHCARE WORKERS

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Background: COVID-19 is a worldwide pandemic causing huge burden on healthcare facilities. Most of the cases were asymptomatic and few were symptomatic. We still comprehensively did not know the exact estimated COVID-19 (symptomatic & asymptomatic) population. We had needed to identify the asymptomatic population of COVID-19 through the immune response of IgG antibody titer against spike protein of SARS CoV-2. The aim of the study is to determine the seroconversion in hospitalized COVID-19 patients and seroprevalence among healthcare workers and control community group against SARS CoV-2 infection. **Methods:** This observational study was carried out in COVID-19 unit of Bangabandhu Sheikh Mujib Medical University (BSMMU). Information about sociodemographic status, comorbidities, results of antibody response (IgG titer) and other relevant information was collected using a pre-designed data collection sheet. In this study, total 211 participants included and total 343 samples was taken for IgG titer measurement by ELISA method. The data was analyzed by SPSS version 25 and Graph pad prism version 8. Statistical analysis was done by using Chi-square test, Student's t-test or Mann-Whitney U test. Statistical significance was defined as p value d"0.05. **Results:** Among COVID-19 patients 58.6% (34) were male and 41.4% (24) were female, median (IQR) age was 45.5 (33 to 57) and median (IQR) Body Mass Index (BMI) was 25.4 (23.39 to 27.42). Among the Healthcare workers 54.9% (84) were male and 45.1% (69) were female, median (IQR) age was 30 (25 to 33) and median (IQR) Body Mass Index (BMI) was 24 (21.53 to 25.71). The antibody titer persisted for more than 3 months in all hospitalized patients and no one was seronegative during the study period. The overall seroprevalence of healthcare workers were 54.9% and Doctors- 38%, Nurses-53.84% & Support staff- 72.54%. Anti-spike IgG titer was significantly higher in severe diseases but had no significant change with age, sex, body mass index, or diabetic status. **Conclusion:** This study shows persistence of antibody titers after 3 months in recovered COVID-19 patients. The results demonstrate high seroprevalence among the healthcare workers and control community group.

Keywords: Humoral immune response, SARS COV-2 infection COVID-19 patients, healthcare workers

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NAILFOLD VIDEO-CAPILLAROSCOPIC CHANGES IN ADULT BANGLADESHI PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: CORRELATION WITH DISEASE ACTIVITY

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Background: Peripheral microangiopathy is an important feature in systemic lupus erythematosus (SLE). Nailfold capillary (NFC) changes observed by nailfold videocapillaroscopy (NVC) may play a role in early detection of microangiopathy and assessment of disease activity in SLE. The aim of the study was to evaluate nailfold capillary changes, their diagnostic accuracy and NFC-pattern of changes in a group of Bangladeshi SLE patients in comparison to healthy subjects and to determine the correlation with disease activity in SLE. **Methods:** This cross-sectional study with a comparison group was conducted in CMCH, Chattogram; a Tertiary Care Hospital in Bangladesh. **Results:** Twenty-seven (n=27) Bangladeshi SLE patients who were diagnosed by ACR-1997 revised criteria for diagnosis of SLE and Twenty-seven (n=27) age-sex matched health subjects were included. All participants were subjected to full history taking, clinical examination, laboratory investigations as well as NVC examination. SLE disease activity was assessed by SLEDIA scoring tool and nailfold capillary changes were assessed with NFC-pattern of changes by applying NVC. Results: Mean (±SD) age of the SLE patient group was 31.2 (±7.8) years and female to male ratio was around 6:1. 23 out of 27(85.2%) patients had multiple phenotypes and 18 (66.6%) had either high or very high disease activity. Sub-papillary venous plexus (SPVP) was prominently visible more frequently in SLE patients and capillary density was reduced in SLE patients compared with healthy controls. Capillary changes in NVC were observed in 26 out of 27 (96.3%) patients. Major and scleroderma pattern were detected in 51.9% and 11.1% of the SLE patients; respectively. Nailfold capillary abnormalities were significantly more frequent in SLE patient than in healthy controls. More frequently found different abnormal morphological changes were seen with crossed capillary (66.7%), tortuous capillary (63%) and meandering capillary (37%). There was a significant positive correlation between disease activity of SLE and NFC-pattern of changes (r=0.443, p=0.021).**Conclusion:** Different abnormal nailfold capillary changes are quite common among patients with SLE, and nailfold capillary changes positively correlate with disease activity in SLE.

Key words: Nailfold capillary, Nailfold Videocapillaroscopy (NVC), Systemic Lupus Erythematosus, Disease activity, Adult Bangladeshi patients

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PREDICTION OF THE NEED FOR NIV IN PATIENTS WITH ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE: A COMPARATIVE STUDY BETWEEN DECAF AND MODIFIED DECAF SCORE

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Background: Exacerbation of chronic obstructive pulmonary disease (COPD) leads to multiple hospital admissions, longer hospital stays, increased

treatment costs as well as increased morbidity and mortality. Currently, no optimal scoring system exists that can predict need for NIV in patients with acute exacerbation of COPD. Accurate prognostic tool can help physicians to select the appropriate level of care and preparedness.To compare DECAF [(D) dyspnoea, (E) eosinopenia, (C) consolidation, (A) acidemia, (F) atrial fibrillation] and modified DECAF score [(D) dyspnoea, (E) eosinopenia, (C) consolidation, (A) acidemia, (F) frequency of hospital admission] in predicting the need for NIV in patients with acute exacerbation of chronic obstructive pulmonary disease. **Methods:** This cross-sectional study was conducted in the Department of Respiratory Medicine, NIDCH, Mohakhali, Dhaka from June 2021 to August 2022. A total of 91 patients with acute exacerbation of COPD were enrolled in this study. All patients were subjected to complete medical history taking, chest examination, dyspnoea assessment by extended modified Medical Research Council Dyspnoea (eMRCD), complete blood count, chest radiograph, ECG, and arterial blood gas analysis. Both DECAF and modified DECAF score were calculated and the need for NIV was documented. All collected data were analysed using appropriate statistical formula and SPSS programme. **Results:** Out of 91 patients, 20 patients (21.97%) required non-invasive ventilation. The area under the ROC curve of DECAF and modified DECAF score was 0.973 and 0.974 respectively in predicting the need for NIV. The sensitivity, specificity, PPV and NPV of DECAF score were 84.21%, 94.44%, 80.00% and 95.77% respectively at a cut off value of 3. The sensitivity, specificity, PPV and NPV of modified DECAF score were 84.52%, 100%, 100% and 96.51% respectively at a cut off value of 4**Conclusion:** Both DECAF score and the modified DECAF score are practical and can be calculated easily using simple questions and routine investigations available during the initial admission. Both were good predictors, but modified DECAF was superior in predicting need for NIV in patients with acute exacerbation of COPD

Keywords: COPD, DECAF score, modified DECAF score

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IMPACT OF ADIPOKINES AND INFLAMMATORY CYTOKINES ON ABNORMAL GLUCOSE TOLERANCE IN YOUNG

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Background: Adipokines and inflammatory cytokines may have an important impact on rising trend of diabetes in young across the globe. To see the association of serum adiponectin, leptin, resistin, tumor necrosis factor-alpha (TNF-á) and C-reactive protein (CRP) with obesity and abnormal glucose tolerance (AGT, includes both prediabetes and diabetes) in young Bangladeshi. **Methods:** This case-control study included 40 young participants with AGT [age 26 years (IQR 24-29); 60.0% female] and 40 with normal glucose tolerance [NGT; age 25 years (IQR 22-28); 44.0% female] encompassed following the oral glucose tolerance test (OGTT) and HbA1c. Insulin resistance (IR) was calculated by homeostasis model assessment (HOMA). The measurement of serum adiponectin, leptin, resistin and TNF-á was done by ELISA whereas CRP by Chemiluminescent tests. **Results:** Level of TNF-á, leptin, and adiponectin as well as frequency of raised resistin and CRP were statistically similar between AGT and NGT (p=NS for all). TNF-á, leptin and CRP were positively correlated while adiponectin and resistin were negatively correlated with measures of obesity. No adipokines or inflammatory cytokines had any significant correlation to glycemic measures, except negative correlation in AGT with leptin and CRP. Fasting insulin and IR had a positive correlation with leptin and CRP, negative correlation with adiponectin and resistin while no significant correlations with TNF-á. None of the cytokines or inflammatory markers were independent predictors of AGT in youth. **Conclusion:** The serum levels of cytokines do not

differ significantly between AGT and NGT subgroups of young subjects and none of the cytokines was observed to be independent predictor over AGT in young.

Keywords: Adipokine, Inflammatory cytokine, abnormal glucose tolerance, diabetes in young

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INSULIN RECEPTOR (RS2059807) AND INSULIN RECEPTOR SUBSTRATE 1 (RS1801278) GENES POLYMORPHISMSIN POLYCYSTIC OVARY SYNDROME

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Background: Insulin resistance (IR) plays central role in the pathogenesis of polycystic ovary syndrome (PCOS). Alteration of single nucleotide polymorphisms (SNP) of gene encoding insulin receptor (INSR) and insulin receptor substrate 1 (IRS1) may be associated with insulin resistance and development of PCOS. To see the allele frequency of INSR (rs2059807) and IRS-1(rs1801278) genes polymorphisms and their associations with Bangladeshi women with PCOS. **Methods:** This cross-sectional study was done among 93 PCOS women (13-35 years) and 79 of age-matched healthy control in the department of Endocrinology, BSMMU. Clinical, biochemical and hormonal profile were recorded. Venous blood was taken in fasting state to measure blood glucose, insulin and genotypes Blood glucose was analyzed by glucose oxidase and insulin by chemiluminescent microparticle immunoassay. SNP genotyping were done by commercial sequencing services. **Results:** The risk allele (G) frequency for INSR (rs2059807) (p=1.00) and risk allele (T) for IRS-1 (rs1801278) (p=0.367) were statistically similar. Considering dominant, recessive, co-dominant, and over-dominant models, there were no significant differences between the study groups for both genes. Among the different manifestations percentage of IR was significantly raised in wild group of only IRS1 gene. **Conclusion:** This study failed to reveal any association between PCOS and Insulin Receptor (rs2059807), Insulin Receptor Substrate 1 (rs1801278) gene polymorphism. Only the percentage of IR was found higher in wild group than the mutant group in IRS1 gene.

Keywords: Polycystic Ovary Syndrome, Insulin receptor gene, Insulin receptor substrate-1 gene

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Poster Presentations

ABSTRACTS

PRE-TRANSPLANT MEDICAL EVALUATION: A MULTIDISCIPLINARY APPROACH

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Conventional autologous and allogenic hematopoietic stem cell transplants (HSCT) are lifesaving or life extending medical procedures but associated with significant risk for non-infectious and infectious complications. The center for international blood and marrow transplant research estimates that worldwide about 100000 transplants are performed yearly. The frequency of transplantation is varied widely from country to country, with a close association of transplant rates with gross national income (GNI) per-capita. Appropriate indication for transplant is mandatory for these rigorous procedures. Hematological malignancies, bone marrow failure syndromes, inherited immune deficiencies, hemoglobinopathies and inherited metabolic disorders are usual indications for BMT. Sources of hematopoietic stem cells are crucial. Patient evaluation includes psychosocial and systems evaluation. Foundation for the Accreditation of cellular therapy (FACT) is required. General guidelines for patient eligibility are chemo sensitive, adequate performance status, adequate non-hematopoietic organ function, ability to provide informed consent and adequately matched available donor or adequate collection of autologous stem cells. Exclusion criteria include chemo refractory, life expectancy severely limited by other illness, inability to tolerate preparative regimen and pregnancy. Relative contraindications are major medical comorbidities, major psychiatric illness and lack of insurance/ financial resources. Comorbidities are cardiac arrhythmia, EF d" 50%, body mass index e" 35 kg/m^2, serum creatinine > 2 mg/dl and EFV1 d" 65%. Allogeneic donor evaluation is also vital and includes HLA typing for HLA-A, -B, -DRBI; screening of transmissible diseases, laboratories, consents and notifications.

Keywords: Pre-Transplant, hematopoietic stem cell transplant, medical evaluation
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PREMATURITY AND NEUROLOGICAL SEQUELAE

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Any birth that takes place three weeks or more before the baby's due date is a premature birth. Prematurity is a public health problem worldwide. Every year, 15 million infants are born premature, accounting for a prevalence of 11% in 84 surveyed countries. Premature births alone account for a quarter of all neonatal deaths. Survivors of premature births have high rates of postnatal morbidities. With the development technologies and medical procedures, the morbidities are increasing due to improving survival of borderline viable cases. The prevalence of cerebral palsy, intellectual and cognitive dysfunction, retinopathy, hearing loss, epilepsy, ADHD and autistic disorder are more in babies born preterm. The risk of cerebral palsy is 8-10 times higher in preterm infants and nearly 30 times higher in infants born <32 weeks. Children born preterm have an average 12.9 IQ points lower than term born controls and these children face difficulty in making communication, executive functioning and cognition. ADHD and autism spectrum disorders are frequently diagnosed (OR 3.3) in children born preterm. ROP associated blindness is 10% in high income countries and 40% in middle and low income countries. As many as 10% children born preterm have hearing loss and 35% suffer from different types of epilepsy. Adequate antenatal check-up and immediate postnatal care are key issues to reduce or prevent neurological sequelae in survivors of premature birth.

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CARDIAC REHABILITATION IN CORONARY ARTERY DISEASE: IMPROVING OUTCOMES AND ADHERENCE

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Cardiac rehabilitation (CR) is a program that aims to improve the cardiovascular health of patients with coronary artery disease (CAD) through a multidisciplinary approach. CR typically includes exercise training, risk factor modification, psychosocial support, and education. Studies have shown that CR can improve exercise capacity, reduce angina symptoms, enhance overall quality of life, and reduce the risk of recurrent cardiovascular events. Despite the benefits of CR, adherence remains a challenge, and many patients with CAD do not participate in these programs. Strategies to improve adherence to CR include patient education, personalized goal setting, motivational interviewing, and peer support. Encouraging and supporting patients with CAD to participate in CR programs is crucial for the secondary prevention and long-term management of their condition.

CR programs are typically supervised by healthcare professionals, such as cardiac rehabilitation specialists, exercise physiologists, and dietitians, who work together to develop personalized treatment plans for each patient. Exercise training is a key component of CR, and programs may involve aerobic and resistance training, as well as other forms of physical activity such as yoga or tai chi. Risk factor modification focuses on controlling blood pressure, reducing cholesterol levels, managing diabetes, and promoting smoking cessation. Psychosocial support and education may include counseling, stress management, and education on nutrition and medication management.

While CR programs are effective, access to these programs may be limited for some patients, particularly those in underserved communities or rural areas. Tele-rehabilitation, which uses technology to provide remote delivery of CR services, has shown promise in increasing access to CR for patients who may not have access to traditional in-person programs.

Overall, CR is a vital component of the management of CAD, and its benefits extend beyond cardiovascular health to include improvements in overall quality of life. It is important to raise awareness about the importance of CR and to work towards increasing access to these programs for all patients with CAD.

Key words: Cardiac rehabilitation, coronary artery disease, outcome, adherence

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ROLE OF NEUTROPHIL TO LYMPHOCYTE RATIO (NLR) AND C - REACTIVE PROTEIN TO ALBUMIN RATIO (CAR) AS EARLY PREDICTORS OF SEVERITY IN ACUTE PANCREATITIS

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Background: Acute pancreatitis (AP) is a life-threatening disease caused by a variety of factors, and once it progresses to severe acute pancreatitis, the prognosis is poor. Different modalities are available for predicting severity in acute pancreatitis. A single, cheap, widely available marker with high sensitivity and specificity is yet to be identified. The present study was aimed to determine the relation

of the neutrophil-lymphocyte ratio (NLR) and CRP-Albumin ratio (CAR) in early prediction of severity in acute pancreatitis. **Methods:** This cross-sectional study was conducted at the Department of Gastrointestinal, Hepatobiliary and Pancreatic Disorders (GHPD), BIRDEM General Hospital, Shahbagh, Dhaka, Bangladesh, from April, 2020 to March, 2022. Diagnosis of acute pancreatitis was made by clinical findings, serum amylase and lipase levels (>3 times the upper limit of normal values), evidences of acute pancreatitis by ultrasonography and computed tomography (CT). Severity of acute pancreatitis was classified according to the revised version of Atlanta classification. Data collection was done through a structured questionnaire. Data were analyzed by SPSS 23. Receiver operating characteristic (ROC) curve was constructed to estimate the sensitivity and specificity of NLR and CAR.**Results:** A total of 120 patients with acute pancreatitis were enrolled in this study. Age of the patients was 45.20±13.93 (mean ±SD) years, male predominance was observed (54.2%). Majority of the cases were mild 52.5% (n=63) compared to moderate 28.3% (n=34) and severe 19.2% (n=23). The NLR was 6.63±3.344 (Mean±SD) with a range of 1.32 to 18.75. The CAR was 3.20±2.23 (Mean ±SD) with range of 0.14-7.20. The area under the curve (AUC) of NLR and CAR were 0.865 and 0.949 for severity of AP respectively. Sensitivity, specificity, PPV, NPV and accuracy of NLR at cut-off e"5.72 were 80.7%, 76.2%, 75.4%, 81.4% & 78.3% and that of CAR at cut-off e"2.07 were 96.5%, 76.2%, 78.6%, 96.0% & 85.8%.**Conclusion:** This study revealed that NLR and CAR are good predictors in the assessment of severity of AP. These easily accessible and low-cost inflammatory markers can be used for the management of acute pancreatitis.

Keywords: Neutrophil to Lymphocyte Ratio (NLR), C - reactive protein to Albumin Ratio (CAR), Early Predictors, Acute Pancreatitis

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HIGHER GLYCEMIC EXCURSION OF NEWLY DIAGNOSED YOUTH-ONSET TYPE-2 DIABETES MELLITUS MAY BE RELATED TO Â-CELL SECRETORY CAPACITY AND NOT TO INSULIN RESISTANCE

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Background: Youth-onset type 2 Diabetes mellitus (T2DM) often presents with high glycemic values.To see the plasma glucose and hemoglobin A1c (HBA1c) at diagnosis and their relationship with â-cell secretory capacity and insulin resistance in phenotypic T2DM of young. **Methods:** This cross-sectional study enrolled 72 newly-diagnosed youth-onset phenotypically T2DM [age range 19-29, median 27, inter-quartile range (IQR) 24-29 years; male 32 (44.4%), female 40 (55.6%)] during March-December'2022 in Endocrinology department, BSMMU. The secretory capacity of â-cell was estimated by fasting C-peptide (measured by chemiluminescence immunoassay) and insulin resistance by calculating visceral adiposity index (VAI) and serum triglyceride/high-density lipoprotein (TH/HDL) ratio. **Results:** Median HbA1c, fasting plasma glucose (FPG), and 2h plasma glucose (2h-PG) of the participants were 8.7% (IQR 6.7-11.0), 10.8 (IQR 7.1-16.3) mmol/L and 18.0 (IQR 13.1-24.3) mmol/L respectively. All glycemic values were negatively correlated to fasting C-peptide (HbA1c: r=-0.437, p<0.001; FPG: r=-0.479, p<0.001; 2h-PG: r=-0.456, p<0.001), body mass index (HbA1c: r=-0.546, p<0.001; FPG: r=-0.550, p<0.001; 2h-PG: r=-0.505, p<0.001) and waist circumference (HbA1c: r=-0.422, p<0.001; FPG: r=-0.399, p=0.001; 2h-PG: r=-0.361, p=0.002). There were no significant correlations of any glycemic values to VAI (HbA1c: r=-0.037, p=0.757; FPG: r=0.075, p=0.532; 2h-PG: r=0.136, p=0.254) or TG/HDL ratio (HbA1c: r=0.036, p=0.764; FPG: r=0.144, p=0.228;

2h-PG: r=0.196, p=0.099). In a linear regression model adjusted for VAI, each nmol reduction of C-peptide was associated with 0.49 (95%CI 0.19-0.79) rise of HbA1c% (p=0.002). **Conclusion:** Higher glycemic excursion at diagnosis of youth-onset T2DM is related to lower â-cells reserve and lower obesity indices but not to insulin resistance.

Keywords: Higher glycemic excursion , youth-onset Type-2 Diabetes Mellitus, â-cell secretory capacity, insulin resistance.

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ASSESSMENT OF DEPRESSION AND ANXIETY AMONG ADULT PATIENTS WITH SOLID TUMOURS ADMITTED IN NATIONAL INSTITUTE OF CANCER RESEARCH & HOSPITAL

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Background: Cancer is one of the most common causes of mortality & morbidity globally, accounting for an estimated 10 million deaths in 2020. The diagnosis of cancer is a stressful event causing significant psychological distresses, most commonly depression and anxiety, directly interfering with disease outcome and quality of life. The aim of the study is to assess the level of depression and anxiety among adult patients with solid tumours as well as the association of various socio-demographic and clinical factors with them. **Methods:** This cross-sectional type of descriptive study was conducted at the National Institute of Cancer Research & Hospital (NICRH), Dhaka for a period of 12 months. A total of 405 histologically confirmed adult solid tumour patients were enrolled in the study using purposive sampling after fulfilling inclusion and exclusion criteria. Data were collected from the patients by face-to-face interviews using a semi-structured questionnaire and Bangla version of the DASS-21 scale. **Results:** In this study, the mean age of the respondents was 47.4 ± 16.5 years, the respondents were predominantly male with the male-to-female ratio being 3:2 roughly. Gastrointestinal cancers (27.4%) were most prevalent, followed by lung (19.5%), gynaecological (11.4%), breast cancers and sarcomas (both 9.4%). The majority of the patients were undergoing chemotherapy (71.9%) and harbouring stage IV disease (64.4%) with duration of illness for less than twelve months (62% of respondents). The prevalence of depressive and anxious symptomatology among all patients was 38.02% and 42.96%, respectively. More than half (53.3%) of the adult patients with solid tumours were suffering from either of depression and/or anxiety. 19.7% had mild, 13.6% had moderate, 3.7% had severe and 1% had extremely severe levels of depression, while the percentages were 17.3%, 11.6%, 9.4% and 4.7% respectively, for severity of anxiety. In inpatient setting, depressive disorders were significantly higher in females than males ($p<0.01$) and among the lung cancer patients; in contrast, gastrointestinal cancer and the presence of co-morbidities predisposed more to anxiety ($p<0.05$). Although mode of treatment and severity of disease showed no significant relationship with the prevalence of depression or anxiety, ECOG performance status was found to have a significant impact on both of the disorders. On analysis of the socio-demographic variables, illiterate and low-income people were seen to suffer more with a severe and extremely severe level of depression, on the other hand, homemakers and lower socio-economic class had higher levels of anxiety. **Conclusion:** The study findings demonstrated a higher prevalence of depressive and anxious symptomatology in the

inpatient setting; therefore, counselling, screening, and timely evaluation of mental health should be a part of the standard protocol of oncology care.

Keywords: depression, anxiety, solid tumours.

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PREVENTION OF ACUTE RESPIRATORY FAILURE DUE TO ADMINIS-TRATION OF POLYMYXINS BY INTRAVENOUS CALCIUM GLUCONATE IN CRITICALLY ILL PATIENTS FOR TREATING CARBAPENEM RESISTANT INFECTIONS IN ACUTE MEDICINE UNIT: A QUALITY IMPROVEMENT PROJECT (QIP)

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Background: Polymyxin B and colistin are most potent antibiotics for treating carbapenem resistant infections due tomultidrugs resistant organisms that are currently rising remarkably and alarm signs for global health. These are last resorts options for bacteremia during crisis time when pathogens are only sensitive to polymyxins. Most common life threatening complication is respiratory muscle paralysis due to neuromuscular blockage that lead to apnea, acute type 2 respiratory failure and death. Main aim of this quality Improvement project (QIP)was to demonstrate therapeutic effectiveness and outcomes of I/V calcium gluconate during administration of polymyxins. **Methods:** This QIP was conducted at acute medicine and HDU of a tertiary care hospital for 2 months in Bangladesh. Patients who got I/V calcium gluconate with polymyxins in January and February, 2023 were compared with similar data without calcium gluconate for prior 4 months. Data analysis and interpretation done by unpaired t test.**Results:** Primary outcome shows statistically significant decrease dintubation and mechanical ventilation due to sudden respiratory failure and ICU transfer after getting I/V calcium gluconate during polymyxins(30.8%,n=13 and 88.9% ,n=9 and p= <0.005).**Conclusion:** This study showsstrongly visible positive outcome in prevention of acute respiratory failure by polymyxins in critically ill patients. We feel that all physicians may practice this study in acute medicine and critical care setup.

Keywords: Acute respiratory failure, polymyxins, intravenous calcium gluconate, carbapenem resistant infections, quality improvement project (QIP).

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HEREDITARY PERSISTENCE OF ALPHA-FETOPROTEIN: A RARE ENTITY FROM A PRIMARY CARE CENTER IN BANGLADESH

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Hereditary persistence of alpha- fetoprotein (HFAFP) is a rare benign autosomal dominant disorder.Here we report a case of 15 years old boy who was found to

have elevated alpha-fetoprotein during her routine evaluation for gynaecomastia. All other common possibilities for raised alpha-fetoprotein were excluded.Subsequently, 2 of his family members were found to have raised alpha-fetoprotein.One is his father and another one is his brother.Raised alpha-fetoprotein has a wide differential diagnosis including, pregnancy, germ cell tumors, hepatocellular carcinoma and others.But after exclusion of other possibilities, persisting elevated alpha-fetoprotein raises the suspicion for HPAFP.Testing other family members for AFP and specific genetic study aid in diagnosis.

Key words: alpha-fetoprotein, hereditary persistence of alpha-fetoprotein, tumor marker.

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RECURRENT VOMITING, AN ATYPICAL PRESENTATION OF SHEEHAN'S SYNDROME

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Sheehan's syndrome is a rare condition involving injury to the pituitary gland following excessive blood loss during delivery. Its presentation is too variable sometimes, it may be remained asymptomatic for long times. Here we are presenting a 50 yr-old woman presented with recurrent vomiting admitted in the Rajshahi Medical College Hospital.

Keywords: Recurrent vomiting, atypical presentation, Sheehan's syndrome

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LIVER FUNCTION TEST (SGPT) ABNORMALITY IN 319 CONFIRMED COVID-19 CASES IN BANGLADESH

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Background: Deranged liver function abnormalities are well-recognized sequela of COVID-19 infection. Globally, there are studies dedicated to evaluate spectrum of liver injury by COVID-19. In this study, we have described the impact of COVID-19 on liver function tests in 319 confirmed COVID cases. Our study aimed to evaluate the liver function alteration by COVID-19 in our population. **Methods:** This study included all adult inpatients (> 18 years old) with laboratory confirmed (RT-PCR) COVID-19 from March to April, 2020 in a tertiary COVID dedicated hospital. We assessed liver function test and categorized patients according to COVID severity. This was a single center, retrospective, observational study. **Results**: Among 319 patients with COVID-19, 36% had normal and 64% had abnormal liver function test. Out of this, 18% had 1-2 times, 42% had 2-3 times and 19% had >3 times upper limit of normal SGPT during admission. 57 (18%) patients presented with mild illness, 83 (26%) with moderate, 124 (39%) patients with severe and 54 (17%) with critical COVID-19 during admission. Significant correlation was found between severity of COVID-19 and raised SGPT level. **Conclusion**: More than half of patients presented during admission with abnormal liver function. COVID-19 has significant impact on liver function derangement in this population.

Keywords: Liver Function Test, SGPT, COVID-19 cases

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PREVENTION OF UNNOTICED DETERIORATION AND IMPROVEMENT IN OUTCOME OF CRITICALLY ILL PATIENTS BY IMPLEMENTATION OF NATIONAL EARLY WARNING SCORE 2 IN A HIGH DEPENDENCY UNIT IN BANGLADESH: A QUALITY IMPROVEMENT PROJECT

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This Quality Improvement Project (QIP) was aimed to assess the acceptability and utility of the National Early Warning Score 2 (NEWS2) in a Bangladeshi level-2 care setting.All nurses and physicians were trained on NEWS2 scores and proper response before starting the QIP. Utilization of NEWS2 and patient outcome were documented and analyzed. Acceptability was recognized by increase in utilization, and utility by reduction in unnoticed deterioration of patients. With modified NEWS2 chart, it became well adopted and utilized by the nurses. Data from 3828 patients showed statistically significant reduction in unnoticed deterioration evident by lowering of sudden cardiac arrest and ICU transfer (0.35% vs 2.6% and 2.33% vs 6.6%, p= <0.0005) after and before implementation of the NEWS2, respectively.With adequate training, motivation, and appropriate modification, the NEWS2 can become a well-accepted, widely adopted, and realistic bedside monitoring tool in resource limited settings like Bangladesh.

Keywords: Unnoticed Deterioration and Improvement, Critically Ill Patients, National Early Warning Score 2, High Dependency Unit

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ACUTE MEDICINE: A NEW HORIZON

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Background: Acute medicine is concerned with the immediate and early management of adult patients suffering from a wide range of medical conditions requiring urgent care. It is a new concept in the context of our country. Given the current situation of the burden of patients against available resources, management of acute conditions under the umbrella of acute medicine may have a promising result. **Methods:** All the information was collected from the department of Acute Medicine of Square Hospitals Limited since it started its journey on the 15th October, 2022. Data of first 175 days (15th October, 2022 to 7th April, 2023) were compiled and the outcome was observed. **Results:** Among 615 patients of department of Acute Medicine, 50% were male and 50% were female. Among them 84% were managed within 72 hours; 92.4% improved and 7.2% needed treatment escalation. Among the patients who got improved, 76% were shifted to cabin and 13% were discharged home after management of acute condition. **Conclusion:** The observation revealed better patient outcome with less hospital stay.

Keywords: Acute Medicine, New Horizon

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ENDOCRINE DYSFUNC-TION AMONG PATIENTS WITH COVID-19: A EXPERIENCE FROM TERTIARY HOSPITAL IN BANGLADESH

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Background: Endocrine systems are vulnerable to destruction and dysfunction by coronavirus disease 2019 (COVID-19). Data regarding the follow-up status of hormones following the recovery are scarce in the literature. The aim of the study to evaluate hormone levels and statuses among noncritically ill patients with COVID-19 during and three months after acute infection. **Methods:** This longitudinal study was done in a tertiary care hospital from September 2021 to February 2022 among 91 noncritical RT-PCR-confirmed COVID-19 patients. After taking relevant history and performing physical examinations, blood was drawn between 07:00 am to 09:00 am in a fasting state to measure serum TSH, FT4, total testosterone (TT), DHEAS, cortisol, and plasma ACTH during hospitalization and after three months. All the hormones were measured by chemiluminescent microparticle immune assay.**Results:** During admission,19.8% of participants had adrenal insufficiency (<276 nmol/L) and 28.0% had different types of thyroid function abnormalities. Among 37 males, 8.1% had low TT and 29.7% had low DHEAS. Among 54 females, 27.8% had high TT and 7.4% had low and 3.7% had high DHEAS. Among 91, 8 died, 68 were lost to follow-up, and follow-up hormone levels were available for only 15 participants. The number of participants with adrenal insufficiency increased from 1 to 7. During admission, 7 patients had various types of thyroid function abnormalities which reduced to only three cases including two cases of primary hypothyroidism. While TT and DHEAS status deteriorated in males, increased hyperandrogenemia status was observed in females.**Conclusio:** Adrenal insufficiency is common during short-term follow-up periods even in noncritical cases of COVID-19 whereas most of the patients with thyroid function abnormalities recovered. A sex-specific opposite response was observed in androgen status.

Keywords: COVID-19, Cortisol, Thyroid function, Total testosterone, Dehydroepiandrosterone sulfate

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NAPHTHALENE POISONING IN A YOUNG GLUCOSE 6 PHOSPHATE DEHYDROGENASE DEFICIENT PATIENT

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Naphthalene poisoning is a rare form of toxicity that may occur after ingestion, inhalation, or dermal exposure to naphthalene-containing compounds. It is a volatile polycyclic hydrocarbon used as a household deodorizer and moth repellent.Ingestional naphthalene poisoning can leadto methaemo-globulinaemia and intravascular haemolysis with diagnostic and therapeutic challenge. Associated G6PD deficiency may make it more complicated. A 20-year-old man presented with low-grade fever, lethargy and dark urine for 4 days.His vitals showed normal temperature, tachycardia with normal blood pressure and low oxygen saturation(76%) despite having high flow oxygen (15L/min).On repeated queries, he gave a history of ingesting a few naphthalene balls after a heated conversation with his friends. Laboratory workup showed features of haemolysis, methaemoglobinaemia, haemoglobinuria and low glucose 6 phosphate dehydrogenase level. The patient was treated conservatively with intravenous fluid, packed red blood cells transfusion, N acetylcysteine andascorbic acid with full recovery.

Keywords: Naphthalene Poisoning, Glucose 6 Phosphate Dehydrogenase Deficient, methaemo-globulinaemia

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CLINICAL PRESENTATION OF HEART FAILURE PATIENTS ADMITTED IN COLONEL MALEQUE MEDICAL COLLEGE, MANIKGANJ

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Background: Heart failure is a complex syndrome that arises from abnormalities in the structure and/or function of the heart, whether inherited or acquired. This increase in prevalence and incidence is due to a variety of factors, including the aging of the population, improved survival rates from other cardiovascular diseases, and changes in lifestyle and risk factors such as obesity and diabetes. Heart failure patients have various presentations and different etiologies. This study aimed to see the different clinical presentations of hospitalized heart failure patients. **Methods:** This study was done to see Clinical Presentation of Heart Failure Patients admitted in Colonel Maleque Medical College, Manikganj and Maikganj Sadar Hospital. Total 3650 patients were enrolled for this study during the period of April 2018 to March 2023. **Results:** Most of the patients (60%) were of 51-70 years age group. 70 % (2555) patients were male. 99 % patients presented with SOB, 95 % patients had basal creps, 70% had orthopnoea, 49% had Paroxysmal Nocturnal Dyspoea (PND), 40% had leg edema and 25% had raised JVP. Average heart rate was 84 beats/min, average systolic B.P. was 128 mm Hg and average diastolic B.P. was 76 mm Hg. 49% population had hypertension, 39% patients had diabetes and 28% had concomitant respiratory illness. Average EF was 37 %. Ischemic Cardiomyopathy was the commonest (40%) cause of heart failure, acute coronary syndrome was the second leading (30%) cause, valvular heart disease and hypertension is the third common cause. **Conclusion:** Most of the heart failure patients are elderly age group. Most of the patients presented with shortness of breath and bilateral basal creps. Most patients had co-morbid other illness that influences the natural course of heart failure patients. Most common causes are ischemic cardiomyopathy, a sequel of ischemic insult of the heart.

Key words: Clinical presentation, Heart failure, hospitalized patients.

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AN ATYPICAL CASE OF ANTI GBM DISEASE

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Anti GBM disease is a very rare type of small vessel vasculitis. The incidence is around less than 1 per million per year .This disease is also known as "Good Pasteur Disease". Usually it presents with rapidly progressive glomerulonephritis with or without lung haemorrhage. The pathognomonic hallmark of the disease is strong linear IgG deposition along the GBM along with positive anti GBM antibody. But when the circulating antibody is absent in the blood, with mild renal impairment it is termed as atypical anti GBM disease. Recently we have found a 26 years old gentleman who presented with leg swelling for 1.5 months along with decreased urine output. He was non diabetic, normotensive, there was no history of joint pain, rash, no offending medication intake, or coughing out of blood. His urine R/E report showed Alb+++, RBC-plenty. After admission his serum creatinine was increasing rapidly. We have done renal biopsy and started treatment with I/V methylprednisolone followed by oral steroid. He had nephrotic range proteinuria. His auto antibody profile and HBsAg, Anti HCV was negative. We have done renal biopsy and it showed crescentic GN with strong linear deposition of IgG. His anti GBM Ab was negative. Thus we labelled the case as atypical anti GBM disease. Now patient is on RRT and we started therapeutic plasma exchange.

Keywords: Atypical case, Anti GBM disease.

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INCREASED CAROTID INTIMA-MEDIA THICKNESS IS A CARDIOVASCULAR RISK MARKER IN POLYCYSTIC OVARY SYNDROME

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Background: Carotid intima-media thickness (CIMT) is an important cardiovascular (CV) risk marker that is not adequately evaluated in patients with polycystic ovary syndrome (PCOS).The aim of the study was to observe the association of CIMT with PCOS and its manifestations. **Methods:** This cross-sectional study was done in the Department of Endocrinology, BSMMU which enrolled 40 newly diagnosed PCOS patients (18- 35 years) and an equal number of control.After collecting clinical data, fasting blood was drawn to measure glucose, lipid profiles, and hormones including insulin, and total testosterone using glucose oxidase, peroxidase, and chemiluminescent immunoassay respectively. Ultrasonography of pelvic organs was done in the early follicular phase. A B-mode ultrasound image of the common carotid artery using a 08 to 12 MHz high-resolution linear ultrasound probe was done by a single sonologist. **Results:** CIMT was significantly higher in PCOS than in control [0.63 (0.60, 0.65) vs. 0.45 (0.41, 0.50), mm, median (IQR), <0.001]. PCOS participants had significantly higher mean CIMT compared to controls (p<0.001 for all) when they were categorized based on body mass index (BMIe"25 kg/m^2), waist circumference (WCe"80 cm) and insulin resistance (IR by HOMA-IRe"2.6). Considering CIMT e"75th percentile of control, all patients with PCOS had a high CIMT. CIMT correlated with WC (r=0.337, p=0.039) and triglyceride (TG) (r=0.315, p=0.048) in PCOS. **Conclusion**: Patients with PCOS had higher CIMT and has an association with BMI, WC, IR, and TG indicating at higher CV risks.

Keywords: Carotid intima-media thickness, polycystic ovary syndrome

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FREQUENCY, CLINICAL PRESENTATION, AND OUTCOME OF ACUTE-ON-CHRONIC LIVER FAILURE AMONG DECOMPENSATED CIRRHOSIS OF LIVER PATIENTS IN A TERTIARY CARE HOSPITAL

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Background: Acute-on-chronic liver failure (ACLF) is characterised by the presence of organ failure in patients with decompensated cirrhosis and is associated with high short-term mortality. Different international entities have taken initiatives to define the condition in different times but recommendations and definitions from The European Association for the Study of the Liver- Chronic Liver Failure (EASL-CLIF) Consortium Acute-on-Chronic Liver Failure in Cirrhosis (CANONIC) study are most comprehensive and widely accepted till date. Only limited data are available on the prevalence, clinical characteristics, and short-term outcomes of ACLF in Bangladesh. It would be very useful for clinicians to identify patients with ACLF early and initiate focused therapy including referral to transplant centers if these data are available. **Objective:** To

evaluate frequency, clinical presentation, and outcome of acute-on-chronic liver failure among decompensated cirrhosis of liver patients. **Methods:** This prospective observational study was carried out at the Department of Gastrointestinal, Hepatobiliary and Pancreatic Disorders (GHPD), BIRDEM General Hospital, Shahbagh, Dhaka, Bangladesh from July, 2019 to September, 2021. Total 175 patients with decompensated cirrhosis of liver were screened, out of which 22 patients dropped out due to various reasons. Purposive type of non-probability sampling technique was used. Formal ethical clearance was taken from the IRB and ethical measures were ensured in concordance with the Declaration of Helsinki. An informed written consent was taken from all participants. Diagnosis of decompensated cirrhosis was based on clinical, biochemical, radiological and endoscopic findings. Laboratory data sent within 24 hours were collected. Oxygen saturation was measured using fingertip pulse oximeter. Investigations for ACLF triggers were done as necessary which included but not limited to urine routine and microscopic examination, urine culture, blood culture, and Anti HEV IgM. Patients' prognosis and survivability were observed by follow up phone call at 30 days. All data were recorded in a separate case record form and finally, it was analyzed by SPSS 23. **Results:** Out of 153 patients, 49 patients (32%) had ACLF: grade 1 ACLF in 26 (17%), grade 2 in 18 (11.8%), and grade 3 in 5 (3.3%) patients. Patients had an average age of 59.54±11.55 years with no significant difference between ACLF and no ACLF groups. Most patients in both groups had others (NAFLD, autoimmune hepatitis, secondary biliary cirrhosis, none) as the main underlying cause of cirrhosis. Bacterial infection, GI bleeding, HEV infection, reactivation of HBV were the precipitating events in 81.6% of patients with ACLF, with bacterial infection being the most common trigger (63.3%). Overall, 44.9% ACLF patients died within 30 days of admission. Older age, male sex, hepatic encephalopathy, GI bleeding, presence of any trigger and higher CTP score were associated with increased risk of death in ACLF. **Conclusion:** Follow up of 153 patients with decompensated cirrhosis of liver revealed that 1 in 3 patients had ACLF and 44% of them would die in 30 days. Bacterial infection and GI bleeding were the most common triggers of ACLF. Early identification and intervention with multidisciplinary approach and referral to transplant centers are likely to improve survival outcomes in this population.

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A CASE REPORT OF CHRONIC DIARRHOEA AND ITCHY RASH- ARE WE MISSING SOMETHING?

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A proper and complete history is very important to reach the ultimate diagnosis and complete evaluation of a patient. Otherwise, the typical presentation can also be sometimes missed which leads to delay or even miss the actual diagnosis of a patient. However, we hereby present a case of a HIV (Human Immunodeficiency) patient where an incomplete history put the physician into a diagnostic dilemma and hindrance. The patient was a migrant worker and had history of sexual exposure and previous blood transfusion. Initially, he did not disclose his personal history to his general and specialist physicians. Therefore, the several consulted physicians could not reach his true diagnosis. After getting admission, we became able to explore his personal history which guided us prompt reaching in his proper diagnosis finally. Moreover, we sometimes fail to make a patient

friendly environment to share everything due to social stigma, lack of welcoming environment, lack of good doctor-patient relationship.

Key Words: Chronic Diarrhoea, Itchy Rash, Weight Loss, History, HIV

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TWO RARE VARIANTS OF TURNER SYNDROME WITH ISOCHROMOSOME STRUCTURAL ABNORMALITIES

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Background: Turner'ssyndrome (TS) is the most common cause of short stature and delayed puberty of female sex. Approximately half of the patients have its classic form of 45 XO, one fourth of patients are different mosaic forms and the remaining cases are structural abnormalities on X chromosome, among them most common structural abnormality is isochromosomeXq. These variant Turner's can present with delayed menarche, amenorrhoea and infertility rather than classic manifestations of TS.Here we describetwo uncommon variants of TS, one is structural abnormality on X chromosome as 46X, iso(Xq) and another one is mosaic variety of TS including Isochromosome X as form of 45XO/46X, iso(Xq).Both of them presented with short stature and secondary amenorrhea without classic manifestations of TS. In TS with or without mosaicism, the frequency of isochromosome is reportedto be about 15-18%. Due to lack of classical manifestations of TS, diagnosis may be delayed and/or missed. So, female of short stature with secondary amenorrhoea should be searched for rare variants of TS by chromosomal analysis.

Key Words: Turner syndrome, Isochromosome X, Amenorrhoea, short stature

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MULTIPLE CRANIAL NERVE PALSY & CHOROID TUBERCULOMA IN A PATIENT WITH DISSEMINATED TB: A CLINIC BIOCHEMICAL STUDY

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Disseminated Tuberculosis is a potentially lethal disease if not diagnosed and treated early. A high index of clinical suspicion and early diagnosis and timely institution of anti TB treatmen is life saving.Patient's sociodemographic, clinical, labarotory investigations and treatment outcome were recorded in a case record form Here we report a case of 42 year old male, known case of diabetes mellitus, presented with the complaints of fever and headache for 1 month, dropping of both eyelids, diplopia and painful red eyes for 7 days. There was no sign of meningeal irritation. Neurological examination revealed proptosis and 3rd, 4th, 6th cranial nerve palsy as evident by bilateral ptosis, diplopia, restricted ocular movement in all direction. Fundoscopy showed choroid tubercle on left eye. CSF study suggestive of

tubercular meningitis. CXR showed pleural effusion and pleural fluid study suggestive of tuberculous pleural effusion. We diagnosed him as disseminated tuberculosis (tubercular meningitis, ocular TB, pleural TB). After starting anti tubercular regimen and steroid, patient's condition got improved. Disseminated tuberculosis usually presents with constitutional symptoms rather than respiratory features. Tubercular meningitis not always present with features of meningism. Choroid tubercle is pathognomic for tubercular meningitis. Early diagnosis and treatment can reduce the mortality, morbidity and complications of disseminated TB.

Keywords: Disseminated tuberculosis, choroid tubercle, tubercular meningitis, ptosis, diplopia

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MANAGEMENT OF GASTROINTESTINAL TRACT DISEASES BY LIVER FRIENDLY DRUGS: EVALUATION OF LIVELIHOOD SCORE EFFICACY

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Background: Compare efficacy and safety level different Proton pump inhibitors and H2 receptor blockers by livelihood score category. **Methods:** 52 participants (30 male and 22 female) participated in this cross sectional studies. They were asked about their drug history specially pattern of drug, starting time, change history (if applicable) dosage schedule, relevant adverse effects etc.**Results:** Out of 52 participants, 27 patients (52%) regularly took proton pump inhibitors for avoiding gastro intestinal irritations more than 7-8 months.10 patients having heart burn and rest of taking different medication for improvement. Out of 27 patients 10 were male and 17 were female. Dependency upon proton pump inhibitors was more in female due to spicy food intake and lack of punctuality of meal. Important clue that 17 patients switch to lansoprazole/rabeprazole from omeprazole/esomeprazole due to insufficient duration of anti-heart burn activity. Condition improved after starting lansoprazole/dexlansoprazole/rabeprazole. Livelihood score of Rabeprazole is D and for lansoprazole/dexlansoprazole it is C. That means hepatic injury is unlikely such as enzyme elevation. Rest of 20 patients who had history of occasional proton pump inhibitor use.Remaining 5 participants didn't give adequate information about their drug history. After switching, 10 patients found fatty liver grade 1 which previously diagnosed as grade 2. **Conclusion:** Carbohydrate and protein dominancy in daily food is prime reason for GIT irritation. In advance stage fate may be ulceration as well as non-alcoholic fatty liver disease. Avoiding unnecessary Non-steroidal anti-inflammatory drugs and selection of proton pump inhibitors according to livelihood score, decrease patient's gastric irritation as well as establishing healthy drug usage.

Keywords: Gastro Intestinal Tract, Liver Friendly Drugs, Livelihood score Efficacy

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A RARE CASE OF MENINGOENCEPHALO-MYELITIS WITH A TUBERCULAR ORIGIN

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Tuberculosis (TB) can affect any bodily system including the central nervous system (CNS). CNS involvement in Tb is fairly uncommon with poor prognosis due to its high mortality and morbidity.

Though meningoencephalitis is a frequent presentation of TB, myelitis along with it is rare. Due to the lack of detailed information about meningoencephalo-myelitis, the risk factors and prognosis of these patients are not fully understood. We report such a rare instance of tuberculosis involving the brain, meninges and spinal cord. The patient was a 13-year-old female with the complaints of fever, both lower limb weakness and urinary retention. The diagnosis was made based on the patient's medical history and physical examination which showed meningeal syndrome, spinal cord and cranial nerve involvement. The diagnosis was confirmed by the analysis of cerebrospinal fluid, magnetic resonance imaging of the brain and spinal cord, and biochemical evidence of tuberculous infection. The patient had a marked clinical improvement and complete neurologic recovery after anti-tubercular treatment and high doses of systemic corticosteroids.

The purpose of presenting the case is to share the bizarre presentation of CNS tuberculosis, a diagnostic and therapeutic emergency. Early diagnosis and immediate management may help with the unfavorable prognosis and our report hopes to shed light on it.

Keywords: Tuberculosis, meningoencephalo-myelitis, meningits, encephalitis, myelitis

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