United Hospital

reflection

Issue-16 | Quarter-4, 2016

Quarterly Newsletter

Editor's Note

With completion of fourth year, this issue of Reflection marks the beginning of its fifth year, which wouldn't have been this successful without the valuable contribution of our colleagues & clinicians. United Hospital continued its focus on educational and CSR activities in this quarter. In collaboration with Bangladesh Atomic Energy Commission and the International Atomic Energy Association, radiotherapy technicians and medical physicists from different organizations were trained; a MOU with Medtronic was signed to set up the first Heart Failure clinic of the country. The fire drill held every year in alliance with Bangladesh Fire Brigade took place with enthusiastic participation by large number of staff.

We welcome 2017 with renewed and refocused energy & enthusiasm, wishing all a Happy New Year.

Participation in Round Table Discussion On Prevention & Control of Non Communicable Disease

Country's leading Bangla Daily Prothom Alo and BNNCP (Bangladesh Network for NCD Control & Prevention) organized a round table meet on Prevention & Control of Non Communicable Disease on 18th October 2016 where Managing Director of United Hospital Limited, Mr Faridur Rahman Khan participated as a guest speaker. As a leading entrepreneur in country's private healthcare sector, he stressed upon the need to fix the import tax on spare parts of capital equipments in accordance with our neighbouring country; this being only 12% for India we are being charged at 35%, which hampers our service delivery, affecting healthcare affordability of our community. He emphasized on government and private sector collaboration to address these healthcare sector problems closely. His informative deliberation was very timely, as was highlighted in the newspaper next day with due importance. The program was chaired by DG Health Dr Abul Kalam Azad; renowned physicians of the country spoke on the event namely Brig Dr M A Malek, founder National Heart Foundation; Prof Dr A K Azad Khan, President Diabetic Association of Bangladesh, Dr A K M Mohibullah, General Secretary BNNCP, Dr Harun Or Rashid, President Kidney Foundation of Bangladesh and Prof Dr Hazera Mahtab, President, Bangladesh Endocrine Society.

Dr Devi Shetty visits United Hospital

Internationally acclaimed healthcare service provider and Cardiac Surgeon Dr Devi Prasad Shetty, Chairman and Founder of Narayana Hrudayalaya, recipient of Padma Shri & Padma Bhushan award by the Government of India, visited United Hospital on 24th December 2016. As he was being shown around the hospital facility, he deeply appreciated the immaculate world class facility that United Hospital has been maintaining in its ten years of clinical pursuit. Mr Faridur Rahman Khan, Managing Director of United Hospital praised Dr Shetty for his commendable contribution in healthcare sector development. Dr Jahangir Kabir, Chief Cardiac Surgeon of United Hospital appraised the delegates about the role of United Hospital in country's healthcare. Dr Devi Shetty was accompanied by his son and by Dr Ashutosh Raghuvanshi, Vice Chairman, Managing Director & Group CEO at Narayana Health. Mr Moinuddin Hasan Rashid, Managing Director United Group, Mr Najmul Hasan, CEO United Hospital and Mr Fahad Khan, Director United Hospital, were also present in the meeting.

The first ever Heart Failure Clinic "Smiling Hearts" in Bangladesh

Smiling Hearts is the first ever Heart Failure clinic in Bangladesh launched at United Hospital under a strategic partnership agreement with Medtronic International Ltd. This clinic at United Hospital Cardiac Centre with dedicated doctors, nurses and patient counselor, will primarily focus on Heart Failure patients to advise them on ways to improve their quality of life. Those who are at risk of developing Heart Failure will also be counseled here for the potential threat of the disease. Mr Omar Ishrak, Chairman & CEO of Medtronic and Mr Faridur Rahman Khan, Managing Director of United Hospital Limited signed the agreement on behalf of their organizations. Mr Omar Ishrak expressed his pleasure in partnering with United Hospital for this unique initiative to serve and educate the heart failure population of Bangladesh. Dr Momenuzzaman, Chief Cardiology Consultant expressed his optimism about the large number of heart failure patients who will get timely & right management from this flag bearer clinic in the country. Dr Jahangir Kabir, Chief Cardiac Surgeon of United Hospital also spoke on the occasion. Mr Faridur Rahman Khan lauded the Cardiology team for this noble endeavor. Senior management staff from both Medtronic and United Hospital were present at the ceremony.

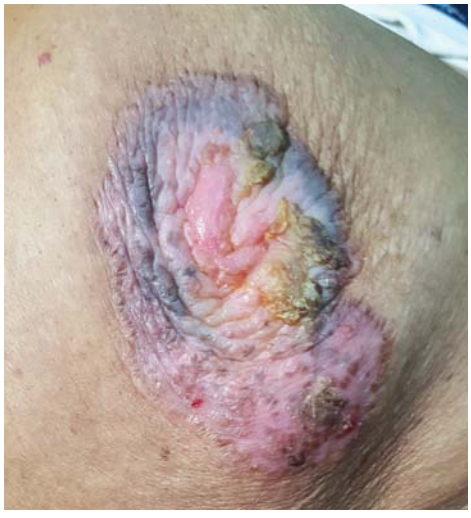
Paget's disease of the breast

Prof Dr Anisur Rahman

At present time there is an increasing awareness in the society about breast cancer, which is the second most common cancer among Bangladeshi women. Paget's disease, an extremely rare variety of breast cancer, can affect both female and male population. The danger is in the fact that the disease presents with skin surface changes in & around the nipple and hence may be ignored by the patient for a long time.

The symptoms of Paget's disease of the breast may include, itching, tingling or redness in the nipple and/or areola; flaking, crusty or thickened skin on or around the nipple; a flattened nipple; discharge from the nipple that may be yellowish or bloody; these are often mistaken for those of some benign skin conditions like dermatitis or eczema. Because the early symptoms of Paget disease of the breast mimic a benign skin condition and because the disease is rare, it has every risk of being misdiagnosed at first, ultimately delaying the diagnosis.

Since most people with Paget's disease of the breast also have one or more tumors inside the same breast, lump can be felt in a clinical breast exam in as many as 50 percent of patients. Only a biopsy can confirm the diagnosis; like needle biopsy, wedge biopsy or punch biopsy. The surgeon may need additional diagnostic tests such as a



diagnostic mammogram, an ultrasound or a MRI to look for possible tumor spread.

Because patients with Paget disease of the breast almost always have one or more tumors inside the same breast, mastectomy with or without the removal of lymph nodes under the arm on the same side of chest (axillary lymph node dissection), is regarded as the standard surgery. However, breast-conserving surgery including removal of the nipple and areola, followed by whole breast radiation therapy, is a safe option for these patients who do not have a palpable lump in their breast and whose mammograms do not reveal a tumor.

The prognosis of the disease depends on various factors mainly delay in detection, age of the patient, spread (Stage) of the disease, whether invasive cancer is present or not, presence of other tumors in the same breast. The presence of invasive cancer in the affected breast and the spread of cancer to nearby lymph nodes are associated with reduced survival.

An 80-year old Bangladeshi lady was admitted in United Hospital with the complaints of ulceration and pain in the left breast for last one year. On examination the left nipple and areola were found to have been completely replaced by a large ulcer which had even spread beyond the areola. There were blood stained discharge and multiple palpable nodes in the axilla of the same side. A clinical diagnosis of breast cancer (Paget's disease) was made which was subsequently confirmed by biopsy. Mastectomy with axillary clearance under general anaesthesia was performed; this was well tolerated by the patient and she had an uneventful recovery. Being discharged on 7th post operative day, she was followed up on 9th and 11th day after surgery, when the skin sutures were removed. She has been referred to the Oncologist for further necessary treatment and follow-up. My experience shows that Paget's disease of the breast, although rare, is not uncommon in Bangladesh.

World COPD Day Commemoration

On 16 November Wednesday, World COPD Day 2016 was commemorated at United Hospital Limited. A Scientific Seminar on COPD update & overview was organized at the hospital's Seminar Hall where Dr Khan Md Sayeduzzaman, Consultant, Respiratory Medicine & Chest Diseases & Dr Rawshan Arra Khanam, Specialist, Respiratory Medicine Department of United Hospital spoke on different important aspects & updated treatment options. Dr N A M Momenuzzaman, Chief Consultant, Cardiology, Dr Pradip Ranjan Saha, Consultant, Internal Medicine, Dr Mohd Maniruzzaman, Consultant, ICU and Dr Khan Md Sayeduzzaman, Consultant, Respiratory Medicine & Chest Disease Department of United Hospital Limited were present as panel of discussants and discussed about the challenges in treating the COPD patients.

Further as a community engagement initiative, COPD patient education session was organized on 17 November Thursday 2016 to add value to the treatment & management given to the patients of United Hospital. Respiratory Medicine & Chest Disease Department doctors of United Hospital discussed about Coping & Living Well with COPD giving tips to the patients; relevant breathing exercises were practically demonstrated by Clinical Physiotherapist. A COPD assessment questionnaire was given to patients, based on the assessment of their current score, basic patient counseling was done by the doctors after the session.

Pigmented Villonodular Synovitis - a rare benign joint disease, a diagnostic challenge

Dr Shakila Parveen

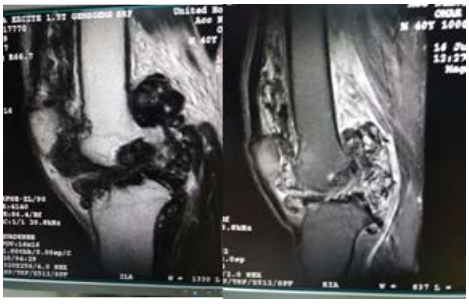
A 40yrs old male patient with history of right knee pain, swelling and restricted movement for about a week presented at orthopedic department of United Hospital. He had history of trauma 15 years back at the same knee joint. On physical exam he had restricted movement, joint effusion, palpable mass and gross swelling of right knee joint but no muscle weakness.

Subsequently MRI and X-ray of right knee joint was done at Radiology Department. On MRI, right knee joint was found swollen, numerous irregular heterogeneous and mixed signal intensity areas were noted within and outside synovial cavity forming a mass lesion with ill defined margin extending above up to the anterior aspect of lower thigh. Focal hyper intense areas were seen in the condyles of tibia and femur on PDFS and STIR images suggesting bone oedema. Bony irregularities were also noted in the tibial and femoral condyles with joint space narrowing. All menisci and ligaments of the knee joint were of normal configuration and signal intensity. All these findings suggested this to be a case pigmented villonodular synovitis (PVNS) of right knee joint. X ray showed osteoarthritic changes of knee joint.

PVNS is a benign proliferative disorder of uncertain etiology that affects synovial lined joints, bursae, and tendon sheaths. The disorder results in various degrees of villous and/or nodular changes in the affected structures. PVNS lesions are monoarticular or solitary. Polyarticular disease is uncommon but more likely in children. It can be localized or diffuse. The probable causes are inflammation, response to previous trauma, repeated haemorrhages in the affected joint, lipid metabolism disorder and neoplsia.

Radiographs show joint effusion and bone erosions, CT and ultrasound demonstrate hypertrophic synovium as a slightly hyperdense/ echogenic soft tissue mass.

MR images demonstrate mass like synovial proliferation with lobulated margins ranging from low signal through isointense to hyperintense signals on spin-echo images, reflecting the presence of blood and its degradation products. Hemosiderin appears as low signal on T1 and T2 weighted images



MRI images of pigmented villonodular synovitis of right knee.

making it difficult to differentiate calcifications from hemosiderin laden foci; plain films help to confirm or deny the presence of calcifications. A combination of plain films and MRI is used in preoperative evaluation to yield an accurate diagnosis and maps out the extent of disease. MRI findings are characteristic, but not pathognomonic.

The primary treatment options include surgical resection via synovectomy or radiation therapy. Recurrence is reduced with complete resection and often with localized disease. Radiation therapy may be used as the primary treatment method or in concert with surgical resection.

Hyponatremia - Evaluation of prevalence in hospitalized lung cancer patients and its prognostic significance

Dr Sharif Ahmed, Dr Md Mahabub Hassan, Dr Ferdous Shahriar Sayed, Dr Ashim Kumar Sengupta

Hyponatremia is an underestimated hazardous complication; which goes side by side since diagnosis till terminal outcome of carcinoma lung patients. The aim of this study was to evaluate the prevalence of hyponatremia in hospitalized lung cancer patients and influence of hyponatremia on prognosis in same group of patients.

Observational study was conducted in between July 2015 to June 2016 in United Hospital Cancer Care Centre. A total of 200 hospitalized patients with diagnosed carcinoma lung were analyzed. These subjects were free from gross liver diseases; kidney diseases and brain metastasis. Prevalence of hyponatremia including severity (mild, moderate and severe) was evaluated. The role of hyponatremia with lung cancer was also evaluated in hospital mortality. Hyponatremia was treated with oral salt, NaCl tablets along with fluid restriction to 500 mL per day. In some cases hypertonic saline was also used. In the present study we were not assessing the prevalence of SIADH (Syndrome of Inappropriate Antidiuretic Hormone Secretion) but only hyponatraemia.

Among 200 patients, NSCLC (Non-Small Cell Lung Cancer) were 79.5% (n=159) and SCLC (Small Cell Lung Cancer) were 20.5% (n=41). Various degrees of hyponatremia were found in 63.52 %(n=101) NSCLC patients and 56.09% (n=23) SCLC patients. There was no statistical significance in prevalence of hyponatremia between histological types of lung cancer. Out of 200 patients, 124 patients had mild, moderate and sever hyponatremia which was 61.29% (n=76), 27.42% (n=34) and 11.29% (n=14) respectively. Among 124 hyponatremic patients 23.38% (n=29) died and 76.61% (n=95) survived. Amongst remaining 76 normo-natremic patients, 10.53% (n=8) died of their illness and 89.47% (n=68) survived. In patients with lung cancer with hyponatremia compared to patients with lung cancer without hyponatremia, a significant increase in hospital mortality was found (23.38% vs 10.53%) ($p<0.001$).

It can be concluded that hyponatremia is a common abnormality found in approximately 62% (n=124) of lung cancer patients, as was found from this study. It is also considered as a significant prognostic factor associated with mortality of lung cancer patients. However in future, large prospective multicenter study is needed to better understand the relation of hyponatremia in lung cancer patients for both management and outcome.

Renal replacement therapy for very sick patients

Dr Tanveer Bin Latif

Renal failure is common accompaniment for wide variety of patients like sepsis and cardiac failure. Many of them need to get admitted in critical care areas. While being treated, their renal function might need continuous support until the patients get over the main illness. But it gets difficult to provide right renal replacement for these very sick patients, with machines and techniques that are used for patients who are stable and come to dialysis centers 3 times a week. Patients admitted in ICU remain hemodynamically unstable and conventional machines used to remove solutes and water too quickly can make patients even more unstable.

A special machine called CRRT (Continuous Renal Replacement Therapy will perform the same job of solute clearance but over an extended period of time (e.g. 24 hours) so that the main aim of solute clearance is achieved without affecting patient's cardiac status; like going slow and steady in a physiological way. Here the role of a nephrologist/ critical care physician is to set different modes with clear aim of therapy as per the given clinical scenario.

One needs to consider other changes those are to be made when CRRT is employed. For example a septic patient needs proper antibiotic but while clearing the waste products from the body the machine will clear the antibiotics as well from blood taking the blood level of that antibiotic to a dangerously low level. Hence the antibiotic dose needs to be modified and if possible be guided by therapeutic drug level monitoring. Many septic patients are having DIC (Disseminated Intravascular Coagulation) meaning that their blood is already thin and there is a bleeding tendency; these patients should not have anticoagulation in the extracorporeal circuit of CRRT machines.

Ultimately at the end of the day, the aim is to take out the excess amount of fluid from patient's body and also the daily obligatory fluid for feeding and injections from the patient, without harming him. Last but not the least, as it is often forgotten in stormy setting of ICU is patient's nutrition. These patients are catabolic and need protein of high quality in good amount; so a dietician should be in the treating team.

Prader Willi Syndrome, a rare genetic disorder

Dr Shahnaz Parvin Siddiqua, Dr Runa Laila, Dr Khorshed Alam, Dr Nargis Ara Begum

A 4½ years old male child was referred to United Hospital from BIRDEM with complaints of severe respiratory distress, generalized anasarca and severe respiratory acidosis; patient being in need of ventilator support. On examination the boy was dyspneic with severe chest indrawing, tachypneic, tachycardic, hypoxic in room air, hypotensive & had significantly severe crepitations in lungs, significant hepatomegaly. He was short (height <3rd centile) but obese (weight >97th centile). He had small hands and feet, narrow forehead, almond shaped eyes, central obesity & chryptorchidism (right side).

The male child gave history of being born by LUCS (lower uterine caesarean section) at term due to less fetal movement. He was the only child of consanguineous parents. As per history after delivery he was hypotonic and developed feeding difficulty for which he needed Neonatal Intensive Care Unit {NICU} support and continued nasogastric tube feeding for 2 months. He had delayed demonstrated milestone of development, speech delay, low I/Q, hyperphagia, excessive weight gain, history of repeated respiratory infection and hyperactive airway disease which were suggestive of Prader Willi Syndrome (PWS).

Upon admission the boy had respiratory failure and severe respiratory acidosis (P^H=6.9, PCO_2=106). He was kept on ventilator support along with cardiotonic & other supportive therapy.

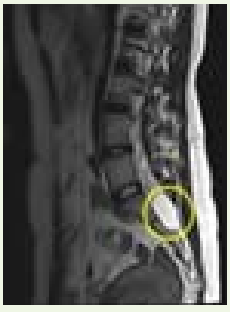
He was extubated after 15 days followed by BIPAP support which was also gradually withdrawn afterwards. Then he was discharged after 25 days of hospital stay as a case of Pneumonia with respiratory failure and heart failure with Prader Willi Syndrome. This male child is under regular monthly follow up at United Hospital and so far leading a normal life.

Prader Willi Syndrome is a genetic disorder due to loss of function of specific gene on chromosome 15. It affects approximately 1 in 10000 to 1 in 25000 newborn. There are more than 400000 people who live with PWS around the world. This complex genetic condition presents with severe hypotonia, feeding difficulties at birth, voracious appetite and obesity in infancy, short stature (responsive to growth hormone), small hand and feet, hypogonadism, intellectual disability, type 2 diabetes mellitus and delayed puberty. There is no specific treatment for PWS. Supportive treatment like behavioral modification therapy, developmental therapy, cognition stimulation and speech therapy, growth & sex hormone therapy are helpful. Newer medication like beloranib (analog of fumagillin) can play role in controlling appetite and obesity.

Tarlov (perineural) Cyst: A case report

Dr Syed Sayed Ahmed, Dr Al Imran, Dr Sourav Chowdhury

A 30 year old lady presented to the Emergency department with a history of sudden, severe low back pain and numbness in both lower limbs. She was unable to walk due to the severity of the pain. There was no history of trauma, loss of consciousness, convulsion, headache or any bowel bladder involvement. She was normotensive and nondiabetic. On neurological examination her muscle power in upper limbs was intact but was significantly reduced in the lower limbs. Her Hoffman's sign was negative and there was loss of sensation in both the lower limbs. All the reflexes and tone



were normal. Previously, she was suffering from lower back pain (LBP) and radiating pain down to the lower limbs following prolonged standing. During her OPD consultations, she was diagnosed as a case of sacral (S1, S2) Tarlov (perineural) cyst with lateral recess stenosis at L4 - 5 on MRI. As she was significantly incapacitated by the pain which was not resolving by analgesics, an earlier surgical intervention was performed. She underwent a laminectomy at L5/S1/S2 and the cyst was completely removed from the sacral hollow and bilateral microforaminotomy was also performed at L4/5 level. Her pain and numbness markedly improved after the surgery. She complained of local pain for the next couple of days which was managed by analgesics. There were no neurological deficits after the surgery. During her follow up after 2 months, she was making slow and steady progress and was advised to walk after a month.

Urogenital Fistula: Urological Approach

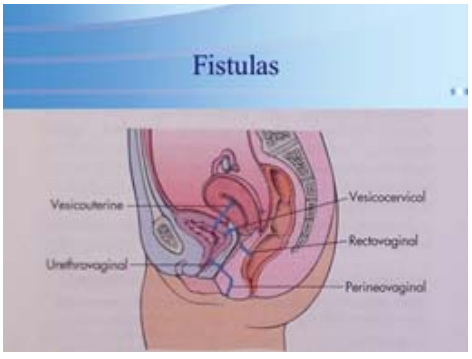
Dr M Zahid Hasan

Vesico-Uterine fistula

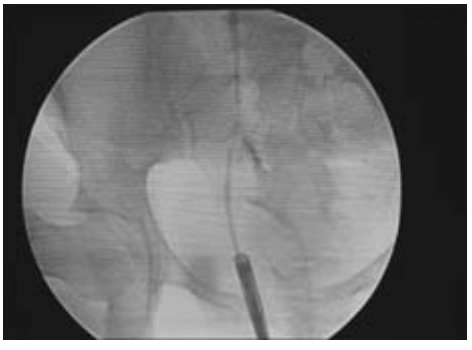
A young lady following termination of pregnancy at 12 weeks by D&C in a private hospital at Dhaka, started having leakage of watery discharge through birth passage with normal urine discharge. Her gynecologist sent her to Urologist to perform Urethrocystoscopy along with other investigations. The urologist found a tiny hole at the posterior wall of the bladder, for which he tried conservative treatment first with Foley catheter in situ for two weeks. After removal of catheter she started leaking urine again. At this stage, one and half month following D&C, she came to United Hospital to get rid of her disability. We took her to Operation Theater for evaluation. Urethrocystoscopy showed normal urethra and ureteric orifices but a small tear at posterior wall of Urinary Bladder (UB) above the inter ureteric ridge. Manipulation with tip of cystoscope revealed a flap valve-like defect leading outside the bladder into a raw space having clots of blood inside. Colposcopy and hysteroscopy with Flexible cystoscope revealed a defect at the anterior uterine wall of uterus through which cystoscope passed into Urinary Bladder. So it was a **Vesico-uterine fistula** formed during D&C. On a separate day we explored the vesico-uterine pouch extravesically by a suprapubic incision and repaired both the defect of Bladder and Uterus. After two weeks of indwelling catheterization patient could void urine without any leak.

Uretero-Peritoneal-Vaginal fistula

A middle aged woman underwent total hysterectomy for DUB (dysfunctional uterine bleeding) at a peripheral hospital.



After an uneventful first post-operative week she started leaking urine through the birth canal intermittently especially at morning after waking up and while she stood up from sitting position. She came to United Hospital after two months following her operation. She was having normal micturition cycle though with this intermittent leaking. Her ultrasound showed a small collection of fluid in recto-vesical pouch with no other anomaly of KUB. IVU showed normally excreting both kidneys with normal diameter ureter and bladder except collection of contrast in recto-vesical pouch and leaking into vagina (**Uretero-Peritoneal-Vaginal fistula).** It was not clear from the available IVU film which ureter is injured. Urethrocystoscopy showed intact urethra and bladder with normal ureteric orifices. Colposcopy showed inflamed right corner of vault of vagina. Ureteroscopy showed normal left ureter. Right ureter showed a small tear at one inch above from vesical end along the medial half of circumference. RGP (Retrograde pyelogram) confirmed the leak point leading to recto-vesical pouch. A Double-J stent was inserted into right ureter over a guide wire inserted retrograde, no repair was done for the tear. Form the first POD she stopped leaking urine. D-J stent was removed after 6 week. Subsequent follow up showed no change (e.g. Hydroureteronephrosis) in upper urinary tract and no more leak.



Urogenital fistula in different form is a rare complication with pelvic surgery in women but still is infrequently associated with difficult vaginal deliveries particularly in lower socio-economic group. Modern minimal approach to this condition can bring rewarding successful recovery to relieve women from this humiliating condition.

United Hospital Cancer Care Center

United Hospital Cancer Care Center started it's operation on October 2010 with two Radiation Oncologists, one Medical Oncologist, two Medical Physicists and one Radiation Technologist. The first OPD consultation in oncology was on 2 October 2010. On 11 February 2011, the first patient was treated with radiation from the linear accelerator (Clinac DMX). The first Brachytherapy procedure was carried out on 20 February 2011.

Over the last 6 years it has made tremendous progress in terms of patient approach collaborating closely with radiation oncology and with various surgical subspecialities in oncology. We strictly follow the updated international guidelines (NCCN, ESMO, ASCO etc) for chemotherapy treatment management protocols. Our medical oncology department is the pioneer in using advanced chemotherapy devices (e.g. port-a-cath, PICC line, syringector etc) for patient comfort and effective management.

A dedicated medical oncology team operate the well-equipped day care chemotherapy unit providing concurrent chemotherapy, systemic chemotherapy, blood transfusions and short term symptomatic & supportive care, supplemented by a full fledged In-Patient oncology wing (IPD) on sixth floor with sufficient beds to handle chemotherapy patients, long term symptomatic and supportive care patients along with pain and palliative care patients. This department is pioneer in using several drugs in Bangladesh like Faslodex (a hormonal preparation), inj. Parjeta (Partuzumab), inj. Denosumab etc. and also the pioneer in prophylactic use of inj. Clexane and Tab. Rivarox to reduce incidence of VTE (venous thrombo embolism).

accrual, manpower development and technology implementation. Now at present there are more than 100 staff which includes consultants, specialists, medical physicists, SHOs, patient counselor, onco-pharmacist, radiotherapy technologists, oncology nurses and other ancillary/supportive staff. We have a Tumor Board with Medical Oncologist, Radiation Oncologist, Radiologist, Pathologist and other relevant departmental consultants for making critical decisions in patient management. A medical board is arranged for critically ill patients requiring multidisciplinary approach.

Medical Oncology:

Medical oncology has a strong focus in new diagnostic and therapeutic

Radiation Oncology:

The department of radiation oncology is the leader of quality and advanced treatment centers in Bangladesh with state of the art cutting edge technology since 2011. We offer more advanced and quality assured radiotherapy making cancer treatment more effective and cost efficient. Our department is equipped with two modern Linear Accelerators and provides advanced radiation treatment like SRS, SBRT, IMRT and VMAT. In addition to the advanced techniques, both the machines have an Image Guided Radiotherapy verification technique as an integral part of the machine.

We are the only Radiation Oncology Department in Bangladesh practicing Real Time Motion Management technique using 4DCT and RPM integrated with our treatment machines. Deep Inspiration Breath Hold technique is routinely practiced for left sided breast cancer patients to reduce heart and pulmonary toxicities. Since 2011, PET based target delineation is being done to improve precise treatment delivery in head & neck cases, cervix, lymphoma, lung, GI and re-irradiation patients. Brain tumors are always managed by MRI fusion with CT images to improve target delineation.

Using image guided brachytherapy as a routine treatment method for cervical cancer and endometrium patients, so far we have performed more than 1,100 procedures since February 2011.

Medical Physicist:

Performance specification, acceptance testing and commissioning of new equipment are responsibilities of the Medical Physicist along with calibration of sources and maintenance of all information necessary for their appropriate use. The Medical Physicist is also responsible for development and maintenance of a quality assurance program for all treatment modalities, localization procedures, computational equipment and programs to ensure that patients receive prescribed doses and dose distributions within acceptable degree of accuracy. Maintenance of all instrumentation required for calibration of sources, measurement of radiation and calculation of doses and first-order maintenance of treatment units is done by the Medical Physicist. Radiation treatment planning with adequate knowledge about the tumor and critical structures is also part of their responsibility as well as the radiation safety program (shared with an institution's radiation safety officer).

Radiotherapy Technologist:

A Radiotherapy Technologist administers radiation therapy by exposing specific areas of the patient's body to prescribed doses of radiation. He / she maintains detailed records of all therapy sessions, noting down in the patient's chart information such as the area treated, the radiation dosage, equipment control settings, patient's reactions and total amount of radiation received to date. Positioning patients for treatment with high degree of accuracy as per prescription, entering data into computer, setting controls to operate and adjust equipment and regulate dosage are important aspects of the job. To follow the principles of radiation protection for patients, self and others as well as to review prescriptions diagnosis, patient charts and identification are vital. Conducting most treatment sessions independently in accordance with long-term treatment plan and general direction of the patient's physician along with checking radiation therapy equipments to ensure smooth operation are duties & responsibilities of this job. This individual also has to observe and reassure patients during treatment and report unusual reactions to physicians or turn the equipment off in the event of unexpected adverse reactions.

Academic Activities:

- Routine CMEs are organized every two weeks on cancer management updates.
- Regularly participates in central CMEs on BCPS training guidelines.
- Routine workshops and seminars are organized for Radiation Oncologists, Medical Physicists and Radiotherapy Technologists from various oncology departments across the country.
- As a part of IAEA National Training Program providing active training to Radiation Oncologists, Medical Physicists and Radiotherapy Technologists in Bangladesh.
- Arranging routine classes for graduate & postgraduate students of Medical Physics from Gono Bishwabidyalay and Dhaka University.

Achievements:

- Pioneer of Volumetric Modulated Arc Radiotherapy treatment on Bangladesh on February 2011.
- First and only Radiation Oncology Department in Bangladesh performing Stereotactic Radio Surgery (SRS) for brain tumors and Stereotactic Body Radio Therapy (SBRT) for extra cranial tumors.
- Part of a Coordinate Research Project (CRP) with International Atomic Energy Agency (IAEA) on small field dosimetry, one out of twelve countries selected to test the upcoming small field dosimetry protocol.
- Accredited with post-graduate training of students under Bangladesh College of Physicians and Surgeons (BCPS).
- MOU has been signed with Gono Bishwabidyalay for teaching, training and thesis work for under graduate and post-graduate students of Medical Physics.
- MOU has been signed with the department of Biomedical Physics and Technology of Dhaka University to teach Medical Physics to Masters level students.
- Mr Karthick Raj Mani (Consultant Medical Physicist) has been appointed as a part time teacher in the department of Biomedical Physics and Technology, Dhaka University to teach Medical Physics for Masters level students.
- Dr Sharif Ahmed (Specialist) received a travel grant to attend ESMO Asia 2016 in Singapore for his outstanding presentation in the 11th SAARC Federation of Oncology Conference held in Dhaka.
- Md Anisuzzaman Bhuiyan was awarded an IAEA grant for attending IAEA/RCA regional training course on clinical application of SBRT in Seoul, Republic of Korea.
- Md Anisuzzaman Bhuiyan, Md Faruk Hossain and Md. Samuel Alim were appointed as Radiation Control Officers in 2015.

Laboratory Errors Causing Medical Errors- an insight

Dr Md Redwanul Huq, Prof Brig Gen (Retd) Zahid Mahmud

A medical error is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. This might include an inaccurate or incomplete diagnosis or treatment of a disease, injury, syndrome, behavior, infection, or other ailment.

It is published in the Lancet that globally an estimated 142,000 people died in 2013 from adverse effects of medical treatment.

Leape published in JAMA (1994) found that medical errors affect one in 10 patients worldwide.

Laboratory testing is a highly complex process and, although laboratory services are relatively safe, they are not as safe as they could or should be. Clinical laboratories have long focused their attention on quality control methods and quality assessment programs dealing with analytical aspects of testing. However, a growing body of evidence accumulated in recent decades demonstrates that quality in clinical laboratories cannot be assured by merely focusing on purely analytical aspects. The more recent surveys on errors in laboratory medicine conclude that errors can happen in 3 phases: pre-analytical, analytical, and post-analytical phases, although it is well published that most errors occur in the pre- and post-analytical phases.

As a part of our quality control procedure in United Hospital Laboratory, we documented all reported errors in our Pathology Laboratory and we calculated the error rates as given below (2014-2015 and 2015-2016). It was revealed that the majority of the errors were pre-analytical - an error in the specimen collection process (Table I).

Table I - Error rates in Pathology Laboratory, United Hospital:

Duration	Total tests	Total error, number (%)	Pre-analytical error (%)	Analytical error (%)	Post-analytical error (%)
July'14 - June'15	8,42,690	25 (0.003)	56	16	28
July'15 - June'16	8,81,470	12 (0.001)	58.3	16.7	25

The findings prompted us to browse through the internet to find out the error rates in the pathology laboratories of developed countries. The overall error rates in developed countries vary from 0.30% to 4.70% and, like the findings in our laboratory, the majority of the errors were pre-analytical (Table II).

Table II - Laboratory error rates in developed countries:

Authors	Total tests	Total error number (%)	Pre-analytical error (%)	Analytical error (%)	Post-analytical error (%)
Carraro P, Plebani M	51,746	160 (0.309)	61.9	15	23.1
Sakyi A, Laing E, Ephraim R, Asibey O, Sadique O	589,510	27707 (4.7)	78.8	2.1	19.1

We understand that the error rate in United Hospital Laboratory is an underestimate as there might be many unreported and undocumented errors. But, the distribution of the errors as pre-analytical, analytical and post-analytical remains similar with those of the developed nations.

Majority of the medical errors being preventable, the United Hospital Laboratory is following all the SOPs (standard operating procedure) to strictly maintain the quality of lab services though that alone is not always sufficient. All the clinical staffs, especially the physicians can also contribute to reducing lab errors by providing the lab with relevant clinical information in the form of history.

Bangladesh Perinatal Society Meeting at United Hospital

Bangladesh Perinatal Society (BPS) is working with different government and non-government hospitals & organizations to improve maternal and neonatal care thereby detecting risks early and taking proper steps for high risk mothers and their babies.

A discussion meeting was held on 24 December 2016 between Bangladesh Perinatal Society (BPS) and Neonatology and Obstetrics & Gynecology Departments of United Hospital. Prof Shahidullah, a leading neonatologist (Ex Pro-VC of BSMMU), President, Bangladesh Pediatrics Association (BPA) and Bangladesh Medical & Dental Council (BMDC) was the chief guest. Others who attended included Prof Samina Chowdhury, Secretary General OGSB, Prof Mannan, Chairman and Head of Neonatology Department, BSMMU, Prof Farhana Dewan, Col Dr Rehana together with Consultants, Specialist, other doctors and nurses of Pediatrics & Neonatology and Obstetrics & Gynecology Department of United Hospital.

Two complicated cases on maternal as well as neonatal morbodity were presented in the discussions followed by question answer session. Recommendations were made to BPS to train sonologists for early detectition of high risk pregnancy cases and for HVS (High Vaginal Swab) testing in pregnant woman at 36-37 weeks of gestation.

Bilateral internal mammary artery grafting: early results of In-situ versus Y grafts

Dr Jahangir Kabir, Dr Md Sayedur Rahman Khan

Bilateral internal mammary artery (BIMA) grafting is associated with improved long-term survival and superior graft patency relative to coronary artery bypass grafting (CABG) with single IMA grafts and saphenous vein graft. However, BIMA grafting is associated with increased operative mortality, higher rates of deep sternal wound infection, increased rate of reopening for bleeding and prolonged postoperative ventilation. Hence, this study was carried out to evaluate early results of BIMA grafting in different configuration in United Hospital and to assess safety and applicability of BIMA grafting as a routine procedure.

A retrospective cross sectional study was conducted in July 2016 where all 307 patients using bilateral IMA for coronary artery bypass (CABG) at United Hospital, from March 2009 to June 2016 were included. BIMA grafting was used in-situ in 98 (31.92%) patients and Y-graft technique in 209 (68.08%) patients. We reviewed and evaluated patients' characteristics and early results. The early result measures included in hospital mortality and morbidities were perioperative MI, reopening for bleeding, stroke, acute renal failure, prolong ventilation (>48 hours), sternal wound infection, arrhythmia and fever. Chi-square test was used to determine any associations between preoperative features and postoperative outcomes.

Out of 307 patients, 294 (95.76%) patients were male. The mean age was 48.73 ± 8.42 yrs with range 28 to 72 yrs. Hypertension and smoking were the most common cardiac risk factors. There was no mortality in both BIMA in situ and BIMA Y-graft groups. Most common postoperative complications were fever (26%), and arrhythmia (7.5%). Only one female patient (.32%) had sternal wound complication. Elderly, obesity and COPD were not observed to be associated with sternal wound complication.

It was concluded that early results of BIMA grafting for CABG is excellent with no significant difference between BIMA in-situ and BIMA Y-graft groups.

A Case of Cervical Lymph Node Tuberculosis in a health care worker: An Emergency Department diagnostic and administrative challenge

Dr Abdullah Al Farook

A 35 year old male health care worker came to the Emergency Department with complaints of painful and tender left supraclavicular swelling. He did not have fever, chills, night sweats and weight loss. He had no stated history of pulmonary tuberculosis or gastric cancer, but he was administered BCG vaccine as a child. He also had no history of prior exposure to a TB infected person. On physical exam he had a 3 X 4 cm² tender, red, fluctuant swelling in his left supraclavicular area with no tonsillar or other neck lymph node enlargement. The rest of his physical examination was unremarkable.

His treatment was started on oral Cotrimoxazol and Clindamycin therapy assuming bacterial infection and a PPD (Purified Protein Derivative) was placed. Two days later PPD was read as positive (>20mm) and Chest X-Ray was negative. USG guided FNA and biopsy of the lymph node showed acute inflammatory exudates, suggestive of acute lymphadenitis. Incision and drainage of the abscess was done at the Emergency Department with follow up appointments. Three weeks later his culture report became positive for Mycobacterium Tuberculosis. He was isolated from the hospital work place and treatment started on DOTS (Directly Observed Treatment Short course) and followed at a local TB Clinic. For him to be infection free, his sputum had to be negative for AFB smears three times both at TB Clinic and at his hospital before he was allowed to return to his work after a period of one month.

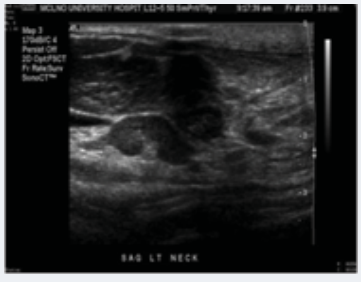


Fig 1. Ultra sonogram of left supraclavicular lymph node with the abscess

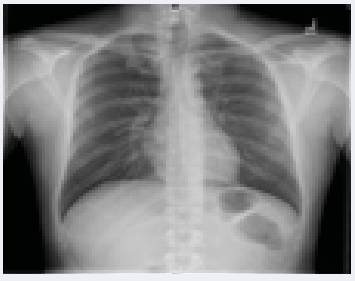


Fig 2. Chest X-ray PA views showing bilateral apical pleural thickening more on left side more than on the right.

Fig 3. Mycobacterium tuberculosis exhibiting Cord formation

Tuberculous cervical lymphadenitis is the commonest presentation of tuberculous infection. It is a diagnostic challenge because it can mimic any other disease of cervical lymph nodes. So, constitutional symptoms and Chest X-Ray are not always positive to help us to diagnose a lymph node TB. A high index of clinical suspicion is required to guide through the differentials.

Original article was presented as a poster at Louisiana State University, University Hospital, New Orleans, USA. Oral presentation was done at South East Society of Academic Emergency Medicine conference, University of Alabama.

Corporate Agreement Signing and Facility Tour

United Hospital Limited signed Corporate Medical Services Agreement with the following companies in this quarter:

- Kuwait Defence Attache Office, Dhaka on Saturday 15 October 2016.
- Karnaphuli Fertilizer Company Limited (KAFCO) on Saturday 29 October 2016.
- Lanka Bangla Finance Limited on Thursday 1 December 2016.
- Le Meridien Dhaka on Saturday 17 December 2016.
- High Commission of India, Dhaka on Saturday 17 December 2016.

The officials from following companies / organizations visited United Hospital in this quarter.

- Embassy of Netherlands, Dhaka
- Embassy of Federal Republic of Germany, Dhaka
- US Embassy, Dhaka
- Asian Development Bank (ADB), Headquarter
- Saudi Arabian Airlines, IFS Centre, Dhaka
- Philip Morris Bangladesh Limited
- Chevron Bangladesh

Seminars

Scientific Seminars with the following topics was organized in this quarter:

- Orthopaedic Fracture Management by Orthopaedics Department on 2 October 2016
- Stroke Management by Neuroscience Department on 30 October 2016
- Management of High Risk Pregnancy by Obs & Gynae Department 3 November 2016
- COPD Overview and Update by Respiratory Medicine & Chest Diseases Department on 16 November 2016
- Arthroscopy, Arthroplasty, Primary & Revision Joint Surgery by Orthopaedics Department on 27 November 2016
- Sunshine Vitamin Updates by Nephrology Department on 1 December 2016
- Meningitis in Newborn and Children – an update by Neonatology and Paediatrics Department on 15 December 2016

The Best of IPOKRaTES: An Update in Neonatology

A clinical seminar on IPOKRaTES Foundation was held in KK Women's and Children's Hospital, Singapore from 14th to 17th November, 2016. Dr Nargis Ara Begum from United Hospital attended the seminar. Total of 250 doctors, nurses and affiliates of university and non-university hospitals in the field of neonatology and intensive care as well as pediatrics and related specialties from 25 different countries attended the seminar. The seminar offered a comprehensive update on issues relevant to premature and mature newborns such as major problems, pathophysiology, clinical assessment, management and care.

A new research finding, Mesenchymal stem Cell therapy was discussed to treat chronic lung disease in prematurity obtained from the umbilical cord of newborns and applied intratracheally in ventilated new born babies or intravenously to treat chronic lung disease.

Health Awareness Talk as CSR Activity

Four awareness session on Stress Management were organized on 3, 5,17 & 24 October 2016 respectively at IRRI Bangladesh Office, Grameenphone Limited Corporate Office, Factory of Auko Tex Group & Super Star Group conducted by Ms Anika Humaira, Psychosocial Counselor of United Hospital.

To commemorate Breast Cancer Awareness Month, Dr Md Rashid Un Nabi, Consultant, Radiation Oncology Department talked at a Health Awareness Session organized on 20 October at the corporate office of Li & Fung (BD) Limited.

To commemorate World Stroke Day 2016, Health Awareness Session on Stroke Management was conducted on Monday 07 November at the corporate office of Nitol Niloy Group at Mohakhali, Dhaka. Dr Saif Ul Haque, Specialist & Dr Sourav Chowdhury, Senior House Officer, Neuro Surgery Department of United Hospital were the speakers of the session.

Training & Workshop

Twenty seven Radiotherapy Technologists from various Radiotherapy centers across the country attended a five days training program from 4 to 8 December 2016 as a part of National Training Program (NTP) for Radiotherapy Technologist (RTT) organized by Bangladesh Atomic Energy Commission (BAEC) with technical support of International Atomic Energy Agency (IAEA), local support of Oncology Club and United Hospital. This program was held at Institute of Nuclear Medicine & Allied Sciences, DMCH, Dhaka and United Hospital.

International Atomic Energy Agency (IAEA) assigned four renowned faculties Mr Anthikad Purushan, Kuwait Cancer Control Center, Kuwait. Prof B K Mohanti, Fortis Memorial Research Institute, Haryana, India, Prof S K Shrivastava, Tata Memorial Hospital, Mumbai, Mr Wadhwan, Rajiv Gandhi Cancer Institute and Research Center, New Delhi, India as trainer under the Technical Cooperation Program, in addition to them Mr Md Anisuzzaman Bhuiyan, Medical Physicist, United Hospital acted as a local trainer. On 8 December 2016 a day long practical session was held where live demonstration of the fabrication of immobilization, treatment planning for Head and Neck cancers, case discussions and image guided treatment delivery procedure were displayed to the participants at the Radiation Oncology department of United Hospital.

- Grameen Caledonian College of Nursing (GCCN) students completed a practical placement program in United Hospital from 23 October to 3rd November 2016. Total 49 GCCN 3rd year student nurses with 3 seniors were assigned in different units of the nursing department under the supervision of Nursing Unit Supervisors. An orientation program was arranged for them by the nursing department on the first day.
- Final year Bsc student nurses (8) of TMMC Nursing College, a unit of Tairunnessa Memorial Medical College & Hospital (TMMC), Gazipur completed a practical placement program in United Hospital from 5 to 10 November 2016. They were assigned in different units of the nursing department under the supervision of respective Unit Supervisors to observe patient related services rendered by nurses.
- On 27 October 2016, United Hospital Radiology Technologist Mr Md Akter Faruk attended the 33rd BAERA Training Course on Radiation Protection for Radiation Control Officers (RCOs) of Diagnostic X-ray Installations.
- Diabetic Association of Bangladesh (BADAS) organized a program on "Diabetes Update Workshop For Health Educator and Nutritionist" which was held in Bangladesh University of Health Science (BUHS), Mirpur. From United Hospital, Dietician In-Charge Ms Chowdhury Tasneem Hasin along with Dieticians Ms Fatima Gazi, Ms Sanjida Sharmeen, Ms Shahela Atker Nasrin & Ms Sheikh Nusrat Jahan and from Nursing Department Ms Mita Gomes, Ms Pinki Gomes, Ms Monalisa (Nursing Aide) and Shabita Ghosh (Acting Nursing Unit Supervisor) attended the program on 8 & 10 December 2016.

Oncology Club Bangladesh, the Bangladesh chapter of SAARC Federation of Oncologist (SFO) hosted the 11th SFO International Cancer Congress and Bangladesh Cancer Congress 2016 held at Dhaka, Bangladesh on 19 and 20 November 2016. A Pre-Conference workshop on “TG 100: Application of Risk Analysis Methods to Radiation Therapy Quality Management" jointly organized by Oncology Club Bangladesh and United Hospital Limited held on 18 November 2015 at Department of Radiation Oncology, United Hospital. It was a privilege that the author of Task Group 100 Prof Saiful Huq, PhD, FAAPM, FInstP, Director of Medical Physics Division, UPMC, Pittsburgh, USA was the teaching faculty in this workshop.

The increasing complexity of modern radiation therapy planning and delivery challenges traditional prescriptive quality management (QM) methods, such as many of those included in guidelines published by organizations such as the AAPM, ASTRO, ACR, ESTRO, and IAEA were discussed in this workshop. 33 Medical Physicists from various Radiotherapy centers across the country attended this one day workshop which was highly appreciated by all participants.

United Hospital Quarterly Newsletter
reflection
Issue-16 | Quarter-4, 2016

New Consultants

Prof Dr Brig Gen (Retd) Md Abdul Mannan
MBBS, MS (Orthopaedics)
Department of Orthopaedics

Prof Mesbah Uddin Ahmed
MBBS, MS (ENT)
Department of ENT & Head Neck Surgery

Dr Humaira Alam
MBBS, MRCOG (Part 1)
FCPS (Obs & Gynae)
Department of Obs & Gyane

Condolence & Prayers

- Blood Bank Specialist Dr Rabeya Rahman lost her father Mr Md Mashuqur Rahman on 22 October 2016.

Congratulations to the Newly Weds on their Marriage

- Director of United Hospital Limited Mr Fahad Khan got married to Ms Zubaida Faiza Bashir on 16 December 2016.

Congratulations & Best Wishes to the following Staff and their Spouses

- Infection Control Officer Dr Kasekh Akhtar Jahan had a baby girl Shahreen Aurora Iqbal on 19 December 2016.

Daffodil International University students visit United Hospital

On 7 December 2016, a team of 28 members (25 second year clinical nutrition students and 3 faculties) from the Department of Nutrition and Food Engineering under the faculty of Allied Health Sciences of Daffodil International University visited United Hospital. Ms Chowdhury Tasneem Hasin, In-Charge, Dietetics & Nutrition Department of United Hospital a briefed them about functioning of Nutrition and Dietetics Department and a facility tour was given to them for an exposure on dietetic & nutrition practice for right nutritional management to patients in a hospital.

Fire Drill 2016

Like every year, United Hospital organized a Fire Fighting Training program from 22 to 24 November 2016 for the staff of different departments, mostly for those caregivers who have more interaction with patients so they can respond immediately in case a fire breaks.

The first two days focused on lectures and theoretical aspects including (a) information on types of fire (b) different types of fire extinguishers and their use on different types of fire (c) action plan when fire is detected (d) precautionary measures to ensure safety of individuals and patients (e) knowledge on exit routes, assembly areas and other details.

On the third day experienced instructors and trained personnel from Bangladesh Fire Service and Civil Defense Directorate in coordination with hospital training department did a practical demonstration comprising the use of fire extinguishers, evacuation methods / procedures and first aid to the affected people etc. at the premises of United Hospital.

The Fire Drill included (a) use of stairways as an escape route in the event of fire or emergency (b) use of crane and ladder to rescue people trapped in fire (c) taking immediate measures using first aid and transferring the injured persons in an ambulance to the nearest hospital.

An average of 50 staff attended the theoretical class and more than 100 staff observed & participated in the fire drill.

Happy New Year 2017

Wish you a very happy, healthy & prosperous New Year

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