IMPORTANT TELEPHONE NUMBERS

Emergency / Casualty :	**2656 8063 / 2656 8064**
Ambulance :	97692 50010
Hospital Board Line :	022-2675 1000 / 2656 8000
Hospital Fax :	022-2640 7655 / 2640 5119
Admission Department :	2656 8080 / 2656 8081 / 2656 8082
TPA Cell :	2640 5115 / 2656 8089
Appointment-OPD :	2656 8050 / 2656 8051
Billing-Inpatient Department :	2675 1585 / 2675 1586
Billing-OPD Department :	2656 8052 / 2656 8053
Blood Bank Department :	26568 214
Health Check-up Department :	2656 8241 / 2656 8242 / 2656 8285
Report Dispatch Counter :	2656 1620
MRI Department :	2656 8066
X-Ray, Sonography Department :	2656 8031
CT Scan Department :	2656 8044

Lilavati Hospital and Research Centre

More than Healthcare, Human Care

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Lilavati Hospital and Research Centre

More than Healthcare, Human Care

LILAVATI HOSPITAL
MEDICAL TIMES

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EDITORIAL...

CHANGING SCENARIO: HEALTHCARE IN INDIA

We are pleased to bring out the second issue of Lilavati Hospital Medical Times (LHMT). We are thankful to the readers for their overwhelming response and appreciation. In this issue we are publishing interesting case reports and studies from the diagnostic and therapeutic side of the hospital.

In the section of history of medicine, we are highlighting information about Prof. Dr. William Stewart Halsted eminent surgeon who was one of the big four professors as well as founder of medical services at The Johns Hopkins Hospital.

We are also highlighting the Electronic Data Processing Department of our institution which helps in making working of all those engaged in patient care easy. EDP department enables mapping of the hospital information system, specific data requirements for faster claim processing and analysis which may be required by various stakeholders internal as well as external. It has developed softwares especially designed to suit LHRC requirements.

Healthcare in India is in a state of enormous transition. Increased income and health consciousness among the majority of the classes, price liberalization, reduction in bureaucracy, and the introduction of private healthcare financing appears to drive the change.

Healthcare has always been a problem area for our country with larger population belonging to the compromised economical capacity or living below the poverty line. The government and the people have started exploring various health financing options to manage patient care in an appropriate manner in the light of escalating healthcare costs. With increased demand for healthcare services, health insurance is emerging as an alternative mechanism for financing healthcare.

Health insurance is very well established in several countries. The Insurance Regulatory & Development Authority (IRDA) bill passed by our parliament is the most important beginning of the changes having significant implications for healthcare.

Recently the Government of India has passed the new company law bill which makes it must for the companies to participate for Corporate social responsibility (CSR) projects. Accordingly corporate and public sector units (PSUs) are expected to offer services in health, education and other areas required for the weaker sections of the society.

Lilavati Hospital & Research Centre (LHRC) is engaged in offering services for the weaker section of the society through SEWA in a committed manner. We at LHRC are planning to enhance our benevolent activities by collaborating with various corporate and PSU's to offer extended services in healthcare sector. We do hope that all the well wishers will extend support for various corporate tie-ups to achieve a success in this venture.

OVERVIEW: LILAVATI HOSPITAL & RESEARCH CENTRE

Late Shri Kirtilal Mehta

LILAVATI KIRTILAL MEHTA MEDICAL TRUST

Lilavati Hospital and Research Centre is run and managed by Public Charitable Trust - Lilavati Kirtilal Mehta Medical Trust which was formed in 1978. The Trust was settled by late Shri Kirtilal Manilal Mehta. The Trust has engaged in innumerable charitable endeavors across India.

Late Smt. Lilavati Mehta

NAME OF TRUSTEES

Shri. Prabodh K Mehta	Shri. Chetan P Mehta
Shri. Rashmi K Mehta	Shri. Bhavin R Mehta
Smt. Sushila V Mehta	Shri. Nanik Rupani
Smt. Charu K Mehta	Shri. S. Lakshminarayan
Smt. Rekha H Sheth	Shri. K K Modi
Shri. Niket V Mehta	

LILAVATI HOSPITAL AND RESEARCH CENTRE

Late Shri Vijay Mehta had a wish to fulfill his parents wish to build world-class hospital where everyone in need for relief from disease and suffering come in with a certainty to receive the best possible medical care. His passion, attention to details and perseverance resulted in iconic healthcare landmark called Lilavati Hospital.

Lilavati Hospital & Research Centre is a premier multispeciality tertiary care hospital located in the heart of Mumbai, close to domestic & international airport. It encompasses modern health care facilities and state of art technology dedicatedly supported by a committed staff. Lilavati Hospital has focused its operation on providing quality care with a human touch; which truly reflects the essence of our motto, “More than Health Care, Human Care”. Being a centre of medical excellence where technology meets international norms & standard the hospital has got what it takes to be a pioneering quality health care institute and is one of the most sought after and patient friendly hospital.

Mission: To provide affordable healthcare of international standard with human care.

Motto: More than Healthcare, Human Care.

OVERVIEW: LILAVATI HOSPITAL & RESEARCH CENTRE

HIGHLIGHTS

- 314 bedded hospital including 72 intensive care beds
- 12 state-of-the-art well equipped operation theatres
- Full fledged Dental & Dermo cosmetology clinic
- Modern Cathlabs having specialized SICU & ICCU with highly trained cardiac care medical staff
- One of the highest nurses to patient ratio in India, which allows patient care in a more prudent manner
- Lilavati Kirtilal Mehta Medical trust is an approved research organization by Ministry of Science & Technology having all modern facilities necessary for conducting research
- More than 300 consultants and manpower of nearly 1,800.
- Hospital attends to around 300 In-patients and 1,500 Out-patients daily.

LATEST ADDITIONS

Lilavati Hospital has always striven to provide the best in health care to patients and is always in the front to adopt the latest technology available to its repertoire.

- *SOMATOM Definition Flash - CT SCAN*
- *3 Tesla MRI with latest Philips Ingenia having digital technology*

LILAVATI KIRTILAL MEHTA MEDICAL TRUST RESEARCH CENTRE

The Lilavati Kirtilal Mehta Medical Trust Research Centre is a Scientific and Industrial Research Organization approved by Ministry of Science and Technology (Govt. of India). The Research Centre under guidelines of Dept. of Science & Technology works in close collaboration in evaluating and developing technologies for better health care to the sick people. The research centre has undertaken multidisciplinary researches in the fields of Cardiology, Radiology, Cerebrovascular Diseases (Stroke), Ophthalmology, Chest Medicine, Nuclear Medicine, Pathology, Oncology, Orthopedics etc, to cite a few. One of the important aims of the Research Centre is to establish Community based epidemiological researches in Cerebrovascular disease in stroke. As a policy Drug and Device Trials are not undertaken at the Research Centre.

LILAVATI HOSPITAL TODAY

EQUIPMENT IN FOCUS - MRI

INTRODUCTION

Lilavati hospital is now equipped with 3 Tesla MRI with latest **Philips Ingenia** having digital technology. The 3 Tesla MRI improves the image quality, is faster and is equipped with the latest softwares leading to increased diagnostic applications. Unique digital broadband MRI captures pure and increased signals and offers greater diagnostic accuracy. Extended ultra-large (up to 55 cm) field-of-view gives extended coverage for whole body MRI. Wide bore (70cm) leads to less claustrophobia.

WHAT IS 3 TESLA MRI ?

Tesla is a strength of the magnets. There are various magnetic field strength available like 0.25T, 0.3T, 0.5T, 1.0T, 1.5T and 3T. The image clarity depends on strength of magnet. Greater the strength of the magnet, better the image quality. Also some of the applications (like diffusion tensor imaging, fiber tractography, functional MRI) are better done on high field (strength) MRIs.

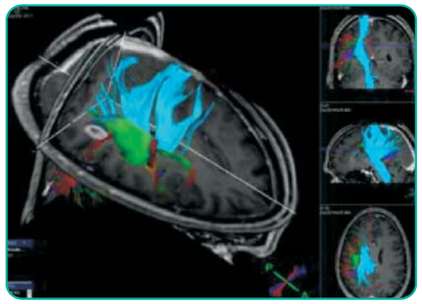
PATIENT FRIENDLY

- 70 cm bore provides more space and helps to reduce anxiety
- Smart software to reduce retakes increase consistency and exam speed.
- Digital coil design greatly reduces coil weight.
- The ambient light ring on the magnet façade and adjustable, in-bore lighting enhance the openness of the system
- Patient-perceived gradient acoustic noise is reduced by more than 80%.

APPLICATIONS :

Neuro applications:

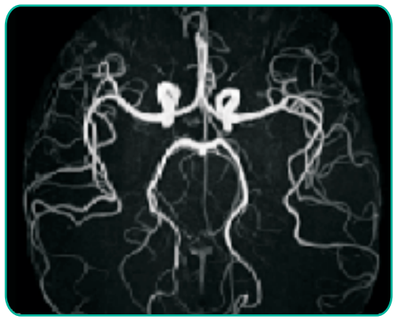
- Stroke-Diffusion and perfusion MR imaging for early detection of tissue at risk.
- Non contrast and contrast enhanced MR angiography for neck vessels and circle of willis.
- Venous bold: to detect tiny hemorrhage, various brain anomalies associated with small hemorrhages.
- Non contrast perfusion studies
- Contrast perfusion and spectroscopy for tumor imaging
- Functional MRI
- CSF flow studies.
- 3D brain view



Fiber tractography

LILAVATI HOSPITAL TODAY

MR spectroscopy



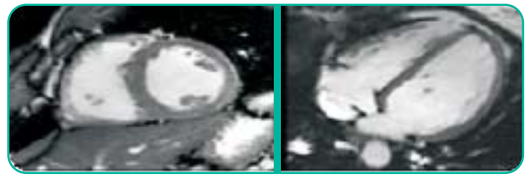
Circle of willis

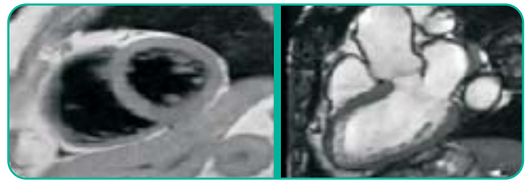
SPINE IMAGING

Whole spine screening, Cervical spine, dorsal spine, lumbar spine, CV junction abnormalities. Stress MRI for better assessment of nerve root compression

CARDIAC APPLICATIONS

- Myocardial viability
- Congenital heart diseases
- Myocardial perfusion





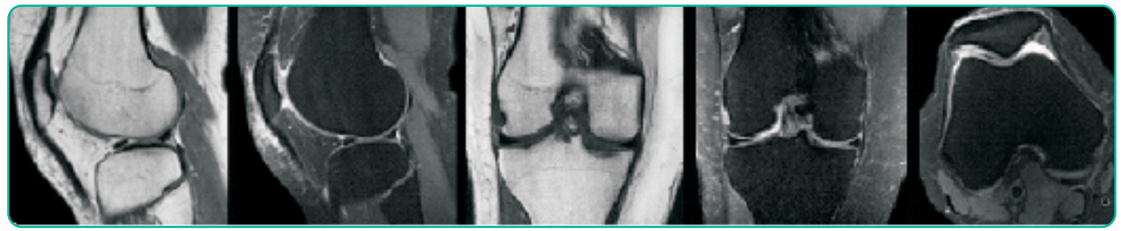
BREAST IMAGING

- Breast MRI and spectroscopy
- Silicone only sequence to image breast implants

LILAVATI HOSPITAL TODAY

ORTHO IMAGING

- High resolution coil, (knee, ankle, shoulder, wrist, hip, elbow, finger) giving high resolution of joints imaging.
- Brachial plexus imaging.

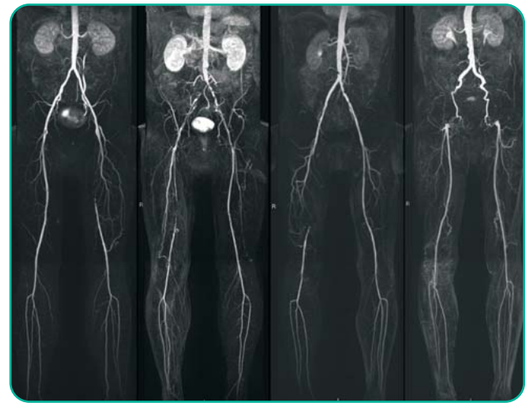


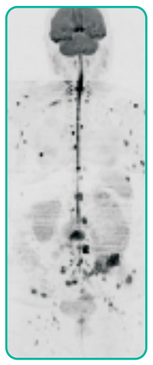
WHOLE BODY IMAGING

- Whole body diffusion for metastasis screening
- Liver, hepatobiliary and pancreatic imaging
- Renal MR imaging, MR Urography
- Prostate MR imaging with prostate spectroscopy
- Gynaecological imaging whole body screening T2 images

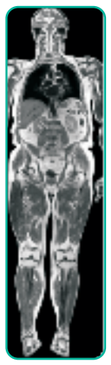
VASCULAR IMAGING

- Peripheral angiography
- Contrast and non-contrast aortogram and renal angiogram.
- Lower limb venogram, contrast and noncontrast.





Whole body diffusion for metastasis screening



Whole body MR T2 screening

CASE REPORTS

Non Contrast M.R Angiography and Venography

Dr. Makarand Kulkarni, *MD,* **Dr. Parangama Chatterjee,** *MD*

INTRODUCTION

Patients with renal insufficiency and high serum creatinine level is always a problem for imaging department when contrast (iodinated contrast for CT and gadolinium for MRI) is to be used. Renal artery stenosis is one of the treatable cause of renovascular hypertension. Also diabetic vasculopathy is a frequent cause of renovascular hypertension and renal insufficiency as well as peripheral vascular disease. Till now use of gadolinium in renal insufficiency patients was considered safe. However recently known relationship of gadolinium with nephrogenic systemic sclerosis has limited the use of MR contrast in such patients and there is a need to find an alternative, non contrast / completely non invasive technique for imaging of renal and peripheral arteries. Color Doppler has its limitations and is operator dependant, CT contrast are nephrotoxic.

Non contrast enhanced MR angiography and venography is a promising alternative for renal, peripheral arteries and venous imaging. It reduces the patients discomfort and risk of nephrogenic systemic sclerosis. For arterial imaging a velocity selective excitation pulse is designed, that inverts the signal from stationary tissue and venous blood, preserving signal from inferiorly flowing arterial blood. For Venous imaging time of flight MR imaging is used with saturation band placed over the aorta to reduce aortic signals.

CASE 1

63 Yrs old male with long standing diabetes and history of smoking, presented with vascular claudication, loss of pulsation in dorsalis pedis artery on either side. The serum creatinin level was 3.0. Peripheral and renal vessels were evaluated with non contrast MRA technique (fig 1 and 2). There was severe atherosclerotic disease in the visualized part of lower aorta with a high grade stenotic lesion at origin of right renal artery. The peripheral MR angiography showed a high grade stenotic lesion in superficial femoral artery (SFA) of left side, in mid thigh with reformation of SFA distally through collateral channels. There was no flow in the anterior (ATA) and posterior (PTA) tibial arteries on left side. The right lower limb showed a stenotic lesion in the ATA proximally with normal flow in the distal segment.

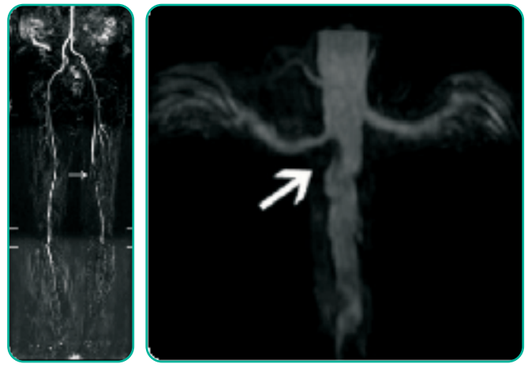


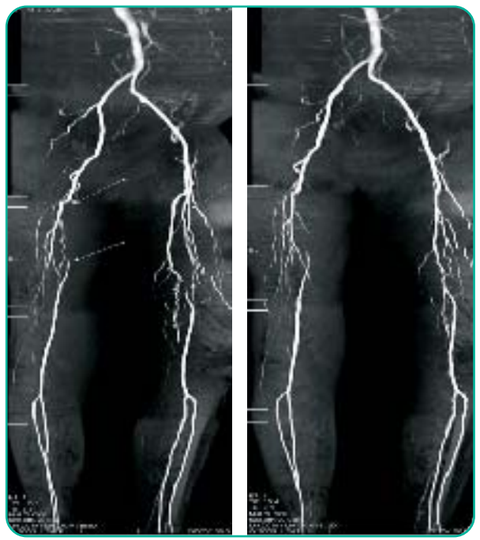
Fig 1: *peripheral non contrast MRA done at 3 tesla MRI of Lilavati Hospital showing stenotic lesion in, left mid SFA with collateral channels and reformation of SFA distally. No flow in ATA and PTA on left side.*

Fig 2: *Same patient, non contrast renal angiography showing stenotic lesion at the origin of right renal artery*

Non Contrast M.R Angiography and Venography

CASE II

82 yrs old male patient, known diabetic with chronic renal insufficiency and bilateral lower limb non healing ulcers. There was feeble pulse over the bilateral popliteal and dorsalis pedis arteries. Serum Creatinine level was 2.5. MR angiography was performed to see the lower limb arterial system. There was a complete long segment occlusion of bilateral superficial femoral arteries which were reformed with collateral circulation. The distal vessels were normal.



CASE III

Sixty seven year old female presented with swelling in the left lower limb. Color Doppler examination was normal. MR venography showed thrombosis of left common iliac vein with a recanalization channel and a collateral channel, extending to left para spinal region.

Fig 3: *Non contrast time of flight MR venography showing thrombosis and recanalized channel in left common iliac vein (thin arrow) with collateral channels (thick arrow)*

CASE IV

Sixty two year old male patient presented with pain and swelling in the left lower limb with non. healing ulcer. Lower limb venous Doppler was normal. MR venography showed compression of left common iliac vein by the adjacent artery with marked flattening and duplication of a short segment of left common iliac vein. This was

Non Contrast M.R Angiography and Venography

described as May Thurner syndrome which is a chronic deep venous insufficiency. secondary to compression of iliac vein against the vertebra by the adjacent crossing iliac artery. Due to chronic compression of iliac vein, there is formation of intraluminal web or focal duplication .

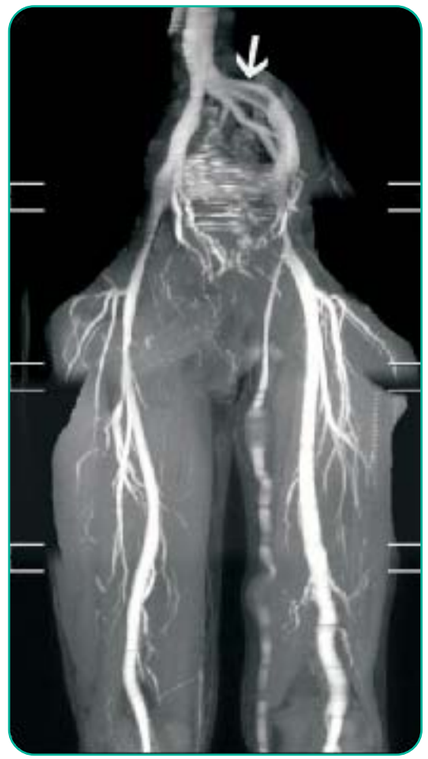


Fig 5: *MR venography of lower limbs showing flattening and duplication of left common iliac vein . This is secondary to compression by the adjacent iliac artery Note abnormal prominence of left sided deep veins including long saphenous vein.*

CONCLUSION

Non contrast peripheral and renal angiography is a reliable screening test in chronic renal insufficiency patients, in post renal transplant patients, for periodic surveillance of renal vessels MR venography is an important adjuvant (not replacement) to Doppler sonography in evaluation of patients with lower limb venous insufficiency. The main advantage of the Time of flight MR Venography is in the diagnosis of the pelvic vein abnormalities which are difficult to evaluate on Doppler.

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A RARE CASE OF PRIMARY BLADDER AMYLOIDOSIS

Dr. Chhaya Patel, *MD Pathology,* **Dr. Asha George,** *MD Pathology,*
Dr. Chandralekha Tampi, *MD Pathology.*

INTRODUCTION:

Amyloidosis is a pathological deposition of proteinaceous substance in the extra cellular space, and is seen in a wide variety of clinical settings. Primary and isolated bladder amyloidosis is rare and its presentation often mimics malignancy.

This entity is hereby presented in view of its rarity.

CASE REPORT:

A 67 year old male presented with gross hematuria. On cystoscopy a mass in the bladder was observed and was suspicious of malignancy. A transurethral resection of the mass was done and tissue was submitted for histological examination.

On microscopy, the overlying bladder mucosa was unremarkable and abundant acellular eosinophilic amorphous material was seen in the submucosa. Amyloid was suspected. Congo red stain revealed fluorescent apple green birefringence under polarized light confirming Amyloidosis. (Fig 1a & b).

Patient had no further haematuria, and was subsequently discharged.

Fig 1a: *Pale eosinophilic acellular amorphous material (H&E stain;100x)*

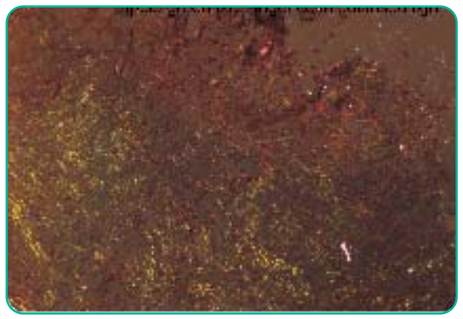

Fig 1b: *Apple green birefringence in polarised light.*

DISCUSSION:

Amyloidosis encompasses a group of disorders which are characterized by extracellular deposition of eosinophilic fibrillar protein in various tissues and organs. Amyloidosis may be primary or secondary depending on whether it is due to underlying immune dyscrasia or secondary to a chronic inflammatory disorder. Amyloid is not a chemically distinct entity, and represents abnormal protein folding which makes it resistant to phagocytosis, leading to its accumulation. This peculiar protein structure gives it its diagnostic microscopic characteristics.

While systemic amyloid can occur anywhere in the urinary tract, primary amyloidosis is usually localised to the bladder, and is a rare urological disease with approximately 200 cases reported in literature. [1-3]

Bladder amyloidosis affects males and females equally in about the fifth and sixth decades of life. The classical presentation with primary bladder amyloidosis is gross painless haematuria (60%), irritative voiding symptoms (20%) or both (20%). [1-3]

The cystoscopic appearance can often mimic carcinoma or interstitial cystitis, the competing differentials in most cases. Deposits vary from multiple yellow plaques to multiple ulcerated polypoid masses to diffuse irregular thickening of the bladder wall. It is for this reason that histological evaluation is essential for diagnosis.

The diagnosis is confirmed by the presence of fluorescent apple green birefringence after Congo red staining and visualisation under polarised light.

Typically primary amyloidosis deposits superficially beneath the surface mucosa sometimes extending into the superficial smooth muscle of the urinary bladder. In secondary amyloidosis, the amyloid tends to accumulate in the bladder vasculature thus explaining why secondary amyloidosis has a high mortality of 30% with its potential for massive haemorrhage.[4]

As demonstrated in our case, transurethral resection is the treatment of choice with primary bladder amyloidosis. Medical treatments such as intravesical dimethyl sulfoxide installation and oral colchicines have also been tried with limited success.

Recurrence rates post resection is estimated to be around 50%.[5] Recurrence warrants full reassessment as cases of coexistent malignancy have been reported[6]. While no official guidelines exist for surveillance, most centres would advocate follow-up cystoscopy at 1-3 year intervals.

LILAVATI HOSPITAL
MEDICAL TIMES

A RARE CASE OF PRIMARY BLADDER AMYLOIDOSIS

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GASTRITIS ASSOCIATED WITH DOUBLE MALIGNANCIES

Dr. Gauri Chavan, *MD Pathology,* **Dr. Asha George,** *MD Pathology,*
Dr. Chandralekha Tampi, *MD Pathology.*

Double malignancies in a single organ are rare. We hereby report two cases of patients with synchronous double gastric malignancies and elucidate their association with specific types of gastritis and their pathogenesis.

CASE 1

A 54 yrs old man presented with dyspepsia and weight loss. Endoscopic biopsy revealed a Maltoma (low grade lymphoma) with severe dysplasia of overlying epithelium (Fig 1) and presence of H. pylori. Imaging studies revealed thickened gastric wall along with enlarged perigastric lymph nodes. The patient was put on H. pylori eradication and chemotherapy. However, the response was poor, hence he was taken for surgery where frozen section of perigastric lymphnodes revealed metastatic adenocarcinoma (Fig 2) and the patient was inoperable.

CASE 2

A 58 yrs old woman presented with dyspepsia, weight loss and frequent epigastric pain. Gastric biopsy revealed an adenocarcinoma for which gastrectomy was performed. On histopathological examination parts of the stomach showed an invasive adenocarcinoma, as well as an invasive well differentiated neuroendocrine tumor (NET) (Fig 3). The background non-neoplastic stomach showed features of chronic atrophic Gastritis Type A (Autoimmune)

DISCUSSION

CASE 1

H. pylori is a spiral shaped bacterium, known to cause chronic gastritis, reduced acid secretion, intestinal metaplasia and hence increased risk of adenocarcinoma. Since H. pylori induces chronic inflammation, lymphoid aggregates with germinal centres are frequently formed.[1] This rich lymphoid infiltration has the potential to transform into lymphomas usually Maltomas[2]. Of interest are the facts that:

1) The Maltoma regresses with eradication of the bacteria.
2) Not all, but only CAG A - Positive H. Pylori strain are known to cause both the aforementioned gastric malignancies.

CASE 2

Autoimmuine gastritis involves loss of parietal cells which stimulates the 'G' cells in the antrum resulting in hypergastrinemia. This leads to enterochromaffin cells (ECL) hyperplasia, formation of micronodules (not exceeding 150 microns) and macronodules a.k.a. microcarcinoid (size up to 5mm). Prolonged stimulation by increased gastrin levels ultimately leads to development of carcinoid tumor (> 5mm in size)[3]. These have low biological aggressiveness and regress on removal of gastrin stimulation (Antrectomy)[4].

The chronic atrophic gastritis with associated intestinal metaplasia is a known risk factor for adenocarcinoma of the conventional variety.

LILAVATI HOSPITAL
MEDICAL TIMES

GASTRITIS ASSOCIATED WITH DOUBLE MALIGNANCIES

CONCLUSION

H. pylori gastritis is known to be associated with both lymphomas and adenocarcinomas. Similarly autoimmune gastritis is known to be associated with NET and with adenocarcinoma and both these entities have established pathogenetic pathways. However, rarely do they present with dual gastric malignancies synchronously as in our cases.

Such dual pathologies can sometimes confound the clinical presentation.

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FIGURES WITH LEGENDS:

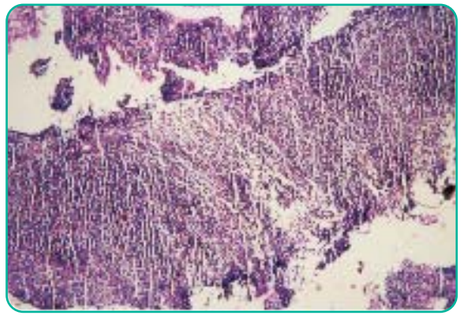

Fig 1: *Maltoma (H&E 40x)*

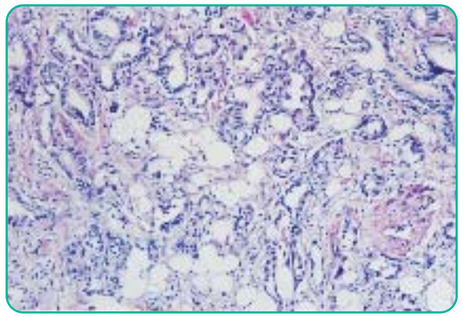

Fig 2: *Metastatic adenocarcinoma in perigastric node (H&E 100x)*

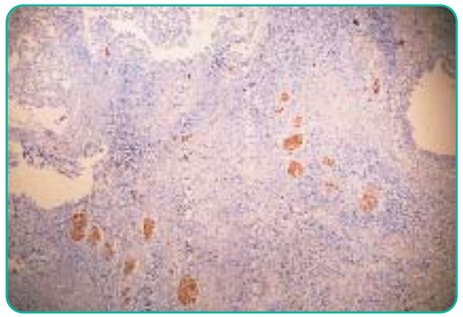

Fig 3: *Syncronous adenocarcinoma and neuroendocrine tumor - (IHC stain for chromogranin highlights the invasive NET)*

MANAGEMENT OF TRAUMATIC SUPERIOR SAGITTAL SINUS INJURY: AN UNUSUAL CASE REPORT

Dr. Hardik Patel, *M.D,I.D.C.C.M* **Dr. Ram Desai,** *M.D,DNB (Medicine)*
Dr. Nitin Dange, *M.S,M.Ch (Neurosurgery)* **Dr. Prakash Jiandani,** *M.D (Medicine)*
Dr. Abdul Ansari, *M.D, FNB (Critical Care)*

ABSTRACT:

Head injury following fall of heavy objects are not very uncommon in developing countries. Superior sagittal sinus injury due to linear fractures across the midline following minor fall are rare. We report such an unusual case of a 32 year old male who slipped on stair case an had a fall lead to sustain linear fracture of left fronto parietal bone crossing midline leading to posterior 1/3 of superior sagittal sinus injury, this lead to Extradural hematoma and simultaneously temporary sagittal sinus occlusion and venous infarct along the parasagittal motor cortex. The etiology, importance of CT scan with 3D reconstruction and management is highlighted. Early resuscitation in intensive care with appropriate timely neurosurgical intervention helped to save the life of this patient.

INTRODUCTION:

Treating traumatic dural sinus injuries puts a high demand and is a challenging task for any neurosurgeon, so understanding the etiology, pathogenesis and site of injury is very essential to decide about the management of such a patient.

Understanding the CT scan finding as well as 3D reconstruction of traumatic fractures is very crucial and helpful in preoperative planning of surgical intervention in patient with dural sinus injury. The decision to do conservative v/s surgical management is very controversial and no standard has been laid[3-6].

CASE REPORT:

This is a case report of 32 year old male after alleged history of fall from a Stair case of approximately height of 6-8 feet after he slipped and fell down backwards and had sustained injury on the skull by direct impact. He had immediate loss of consciousness at the site and was shifted to nearby nursing home found to have bleeding from the scalp, was primarily managed and shifted to our centre, Patient immediately shifted to our intensive care unit, on arrival Patient was in altered sensorium, GCS 8/15, Pupils were unequal reacting, right side hemiplegic, bilateral planter extensor, HR-68/min, BP-108/60mmhg, patient had a convulsion while he was about to shift to the CT department, hence was intubated ventilated and managed.

Following resuscitation, immediately CT brain angio of neck vessels with 3D reconstruction images was performed (figures - 1,2). The CT SCAN of brain showed linear long fracture of left fronto-parietal bone extending across midline along the posterior 1/3 of sagittal suture to opposite of parietal bone (figure-3), an extra dural frontal parasagittal hematoma with mass effect and contusion along the left parasagittal motor cortex region (figure-4).

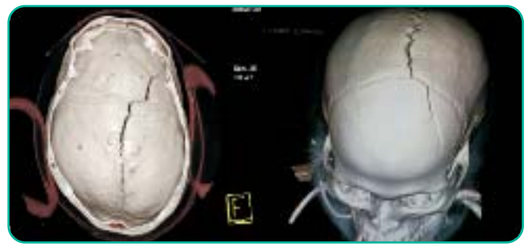

Fig 1 ***Fig 2***
(3D reconstruction images showing site of cranial fracture)

MANAGEMENT OF TRAUMATIC SUPERIOR SAGITTAL SINUS INJURY: AN UNUSUAL CASE REPORT

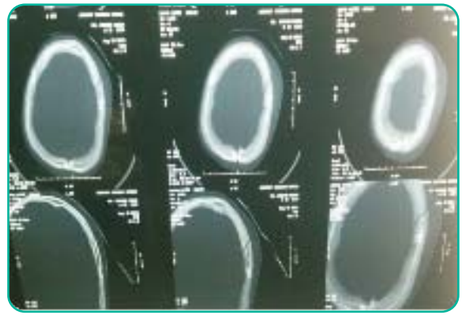

Fig 3: *(scan of Linear fracture)*

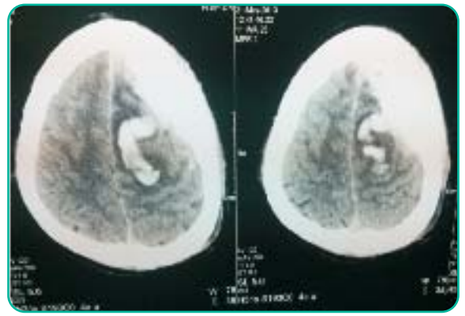

Fig 4: *(EDH with intraparanchymal hematoma with mass effect)*

We suspected the venous hemorrhage due to injury of superior sagittal sinus as the cause.

Decision was made to do an emergency surgical intervention in view of progressive deterioration in neurological condition, unequal pupils, right sided hemiplegia, CT scan suggestive of extra dural hematoma with mass effect. After detail evaluation of the CT scan and 3D reconstructive images, patient was shifted to operation theatre immediately, left fronto-parietal large scalp flap was elevated and left fronto-parietal craniotomy was done up to fracture line near segment of the superior saggital sinus rent (figure-5) and meticulously the bone flap elevated off the injured posterior 1/3 of sagittal sinus. There was a venous bleeding which was controlled by surgicel gelfoam and appropriate pressure (figure-7). Extra Dural hematoma was evacuated. After opening the Dura (figure-6), underlying intraparanchymal motorstrip hematoma was evacuated (figure-7). Blood over the sinus was removed. In view of venous sinus injury and brain edema, decompression was planned and bone flap was not replaced, lax dura plasty was done with galec apponeurotic free flap.

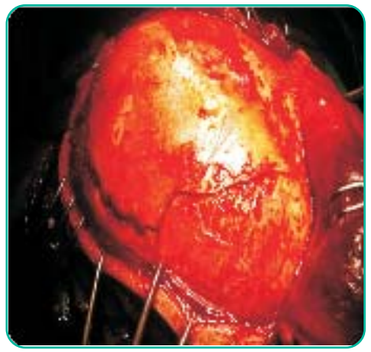

Fig 5: *(intra-op depressed cranial fracture)*

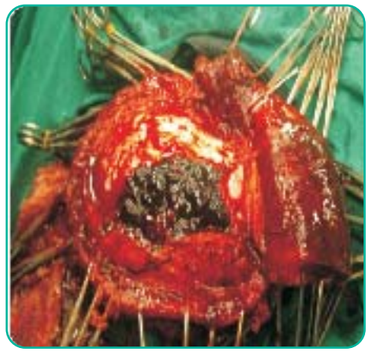

Fig 6: *(intra-op depressed cranial fracture)*

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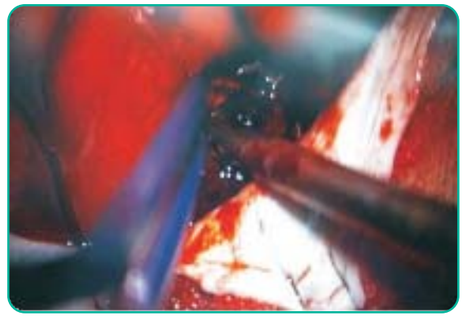

Fig 7: *(intraoperative images of bleedind sagittal sinus)*

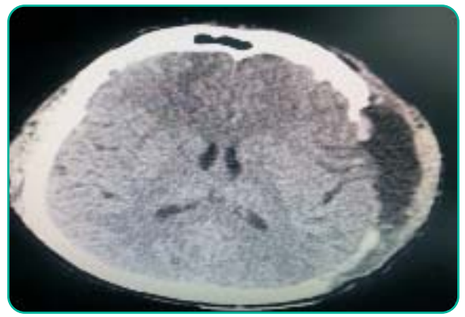

Fig 8: *(postop CT brain)*

His post operative recovery was unremarkable. He was discharged after 2 weeks of surgery. His CT scan (figure-8) at discharge showed no new hemorrhage, complete evacuation of extra dural hematoma and intrapranchymal bleed with post operative changes. He was fully conscious and oriented with GCS 15/15, Power on right sided limb was 4/5 with no other neurological deficit at the time of discharge. He was advised for cranioplasty at later date.

DISCUSSION:

Skull fractures are classified into linear, depressed and comminuted[1]. Depressed fracture is one where in the fractured fragment in driven inwards. On the other hand in elevated fracture, this fractured portion is elevated above the level of the intact skull[2].

Fracture involving the sagittal suture and underlying sagittal sinus injury are relative rare. Superior sagittal sinus injury due to depressed fracture of overlying bone is the most common dural sinus injury with a mortality rate as high as 41% due to bleeding from the sinus adds significant mortality[3].

Recent development in CT scan in form of 3D reconstruction is helpful in better understanding the anatomy and is essential for proper preoperative planning of surgical management of complex dural sinus injury as it is in our case.

It is a common wisdom that depressed cranial fracture over the SSS should not be elevated in all cases because the risk of fatal venous hemorrhage.

But surgical intervention is indicated in some patients who involve foreign body like nails or stone. Smooth depression carefully elevated without significant bleeding. However depressed fracture with sharp bony spicule overlying major sinuses, demands immediate surgical intervention and Sinus repair may be required in such case. Depressed skull fracture over the superior sagittal sinus causes venous sinus occlusion leading to rising intracranial pressure (ICP) and cortical venous thrombosis[3-7] with evident encephalopathy, cases have been reported[3,8,910,11]. Some depressed fracture can cause SSS thrombosis, leading to late deterioration[7].

In our patient we found alleged history of fall on stairs leading to linear long segmental cranial fracture of left frontal - parietal region extending up to right parietal bone with partial injury of posterior 1/3 superior sagittal sinus causing underlying

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venous hemorrhage in left motor parenchymal region. There was a dural tear along the injured sinus confirming the etiology as overlying the fracture segment. Our patient warranted early surgical treatment in view of clinical signs of raised intra cranial tension, extra Dural hematoma with midline shift, as well as partial superior sagittal sinus injury which may lead to ongoing venous hemorrhage or may lead to sagittal sinus thrombosis further possibly rising intracranial pressure and neurological deterioration. Hence a simultaneous decompression was planned and relief of raised intracranial pressure was ascertained[10].

We believe that arresting blood loss at the earliest in SSS injury patients is life saving. Although bleeding from the SSS is a problem, favorable outcome can be ensured at surgery by wide exposure and meticulous repair. Localization of the site of injury by CT scan of head with 3D reconstruction is of paramount importance in preoperative Planning.

ACKNOWLEDGEMENTS:

We gratefully acknowledge the suggestions and supports from the Dr. Manoj Deshmukh (consultant radiologist), Dr. Tushar Parmar, M.D , Dr. Srinivasan Ramnathan, M.D, Dr. Sumit, Dr. Sudhendu (resident in neurosurgery).

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THE ABSENT APPENDIX

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ABSTRACT

Congenital absence of the vermiform appendix is a rare clinical entity and not many cases have been reported in literature. It was first described by Morgagni in 1718. The estimated incidence is one in 1,00,000 laparotomies performed for suspected appendicitis. This is a case who presented with recurrent episodes of fever and abdominal pain, which when taken up for laparoscopy revealed absence of the vermiform appendix.

KEY WORDS

Absent appendix, Yersinia Pseudotuberculosis.

KEY MESSAGE

The caecal appendix varies very considerably in its length, form and position. A possibility of it being absent can also exist. A thorough and meticulous search of the entire ileo-cecal region and mobilization of the cecum and ascending colon should be carried out before the diagnosis is made.

CASE REPORT

A 7 year male child first product of non-consanguinous marriage had a history of repeated hospitalizations for fever and non-specific abdominal pain. Prior to the first admission the child had intermittent low grade fever, on and off for 2-3 months which subsided with anti-pyretics.

During the first admission the fever was persistent for 7 days not responding to anti-pyretics, high grade (103-104 degree Fahrenheit) not associated with chills and rigors, no rash, joint pain and yellow discoloration of skin or eyes. The fever was associated with non-specific diffuse abdominal pain, not localized to any quadrant, intermittent with no aggravating or relieving factors. The child's father underwent an appendectomy for severe abdominal pain in his childhood. On examination the child was clinically stable with vitals within normal limits and a palpable liver and spleen 2cm below the costal margin.

The initial investigations showed a hemoglobin (Hb) of 11.9gm/dl, total leukocyte count (TLC) 5200 cells/cu mm (neutrophils-65%, lymphocytes-28%), platelet count (PC) 1,64,000/cu mm, peripheral smear showing hypochromasia and leukopenia, malarial antigen and parasites was negative, Widal negative, C reactive protein (CRP) 12.5mg/l, Erythrocyte sedimentation rate (ESR) 38mm. Blood and urine cultures were negative. The child then was started on Intra-venous (IV) ceftriaxone and IV artesunate. An ultrasound scan of the abdomen showed mild splenomegaly, minimal free fluid in the pelvis, cholelithiasis without cholecystitis and multiple enlarged discrete non necrotic lymph nodes largest being 1.7 x 0.9 cm.

The child was then started on IV cefotaxime and the fever started subsiding after 4 days of antibiotics. A sickling test and Hb electrophoresis was also done in view of the gall stones which were normal. The child was discharged after a 48 hour

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afebrile period and 7 days of IV antibiotics with a diagnosis of culture negative Enteric fever.

After a month the child was again admitted with the same complaints of fever and abdominal pain. The liver and spleen were just palpable without any other significant clinical finding. Investigations showed Hb of 11.2gm/dl, PCV 34.2%, TLC 4700 cells/cu mm (n-44%, l-52%), PC 2,56,000/cu mm, peripheral smear showing hypochromasia, anisocytosis, occasional microcytes and leukopenia, ESR 36mm, CRP 10.3mg/l. Dengue, Malarial tests, Widal, Tuberculosis IgM, Weil Felix, Mantoux, blood and urine cultures were all negative. The ultrasound scan of the abdomen showed mild hepatomegaly, moderate splenomegaly, and no evidence of gall stones and significantly enlarged mesenteric lymph nodes measuring 1.9 x 1.3 cm. 2D Echo, chest x-ray and x ray of the spine were also normal.

The child was treated with IV antibiotics, improved symptomatically and discharged on antibiotics for 14 days with a diagnosis of incompletely treated Enteric fever.

In spite of prolonged antibiotics the child came back after a month with fever, abdominal pain and vomiting non-bilious, non-projectile, containing consumed food, not foul smelling or blood stained. The complete blood count showed a similar picture of hypochromasia and leukopenia, ESR 51mm, HIV, HBsAg, HCV were negative. The ultrasound scan of the abdomen showed persistent hepato-splenomegaly, with multiple lymph nodes measuring 2 x 1.2 cm with increased vascularity and number in the right iliac fossa.

Keeping in mind the gradually increasing size and involvement of abdominal lymph nodes a decision of doing a diagnostic laparoscopy, lymph node biopsy and if required an appendectomy was made.

Intra-operatively large mesenteric lymph nodes and multiple adhesions between bowel loops were seen on the laparoscopy. The appendix could not be visualized at all. Hence the laparoscopy was converted to a laparotomy, multiple mesenteric lymph nodes were biopsied and even after all attempts the appendix could not be found.

The histopathology report favored mesenteric lymphadenitis with micro granulomas due to Yersinia pseudo tuberculosis.

The child was treated with 14 days of IV antibiotics and discharged, and has been well on follow up till 3 months post-operatively.

DISCUSSION AND CONCLUSION

Congenital absence of the vermiform appendix is a medical rarity that has been reported in the literature and found in clinical conditions simulating acute appendicitis or at autopsy in about sixty cases so far.(2) Not many cases of absent appendix are reported in pediatric literature. In human beings there is a reported incidence of 1 in 1, 00,000 (0.0009%) cases. (1, 2, 5)

The fact that congenital absence of the vermiform appendix has been reported on several occasions confirms its existence and should be kept in mind. A thorough and meticulous search of the entire ileo-cecal region and mobilization of the cecum and ascending colon should be carried out before the diagnosis is made.(4)

Complete failure of the appendicular anlage to differentiate is believed to result in a primary absence of the appendix. Arrest of development may occur at any stage and give rise to absent caecum and appendix, blunt conical caecum

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without appendix, a round symmetrical caecum with longitudinal muscular bands converging to its apex but without appendix or an assymetrical form of caecum without appendix.(3)

Vestigial structures are usually variable in the extent of their development and are frequently found to be absent altogether. This is especially the case when the structure or organ has no functional importance. Hence the fact that although the caecal appendix varies very considerably in its length, form and position a possibility of it being absent can also exist.(3)

Yersinia pseudotuberculosis is a Gram-negative bacterium that causes pseudotuberculosis (Yersinia) disease in animals; humans occasionally get infected zoonotically, most often through the food borne route. Yersinia pseudo tuberculosis is the least common of the 3 main Yersinia species that cause infections in humans.

Y. pseudo tuberculosis infection in humans usually leads to a gastroenteritis characterized by a self-limited mesenteric lymphadenitis that mimics appendicitis. In humans, symptoms of Y. pseudo tuberculosis are similar to those of infection with Yersinia enterocolitica (fever and right sided abdominal pain), except that the diarrheal component is often absent, which sometimes makes the resulting condition difficult to diagnose. Y. pseudo tuberculosis infections can mimic appendicitis, especially in children and younger adults and, in rare cases; the disease may cause erythema nodosum, reactive arthritis or bacteremia.(6, 7, 8)

Y. pseudo tuberculosis invades mammalian cells and survives intracellularly. The primary virulence factor is a plasmid-encoded protein that causes increased invasiveness. A major triad for Y. pseudo tuberculosis infection includes fever, abdominal pain, and rash. The predominant and often self-limited presentation of Y. pseudo tuberculosis infection is that of a febrile gastroenteritis with right lower quadrant abdominal pain mimicking appendicitis which is actually from mesenteric lymphadenitis and not as the typical diarrhea and vomiting of food poisoning incidents.

Y. pseudo tuberculosis can be diagnosed by blood and stool cultures and serological tests. Imaging modalities may reveal enlarged mesenteric lymph nodes and/or peritoneal findings, including appendiceal inflammation, peri-appendiceal fluid, and/or terminal ileitis. Histopathological findings of involved lymph nodes (mesenteric) typically show epithelioid granulomatous changes, lymphoid hyperplasia, coagulative necrosis, and histiocytic cell hyperplasia.

Treatment is mostly medical with antibiotics like ampicillin, aminoglycosides, tetracycline, chloramphenicol, or a cephalosporin for 14 days. Exploratory laparotomy may be warranted in patients to reach a definitive diagnosis or in those who present with complications such as severe abdominal pain, including acute abdominal presentations with peritoneal findings, or, uncommonly, intussusception.

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TC 99M SESTAMIBI SCANNING FOR MYELOMA AT LILAVATI HOSPITAL

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Dr. Karuna Luthra, *D.N.B (Nuclear Medicine)*

Multiple myeloma (MM) is a neoplastic plasma-cell disorder, characterized by clonal proliferation of malignant plasma cells in the bone marrow. This results in the secretion of a myeloma monoclonal protein that causes damage to multiple organs (Multiple myeloma) especially the bone marrow. The diagnosis of this condition rests on documenting M band, raised serum free light chain with an abnormal ratio and raised ESR in the blood, as also increased plasma cells in the bone marrow and radiological tests for extent of bone damage.

Conventional radiography of the skeleton has been traditionally used to identify myeloma-related bone lesions. They are cheap and easily available at most centres, but have limited sensitivity. Magnetic resonance imaging is recommended to evaluate symptoms in patients with normal results on conventional radiography since it detects marrow changes much earlier. However changes on MRI may be non specific and imaging is limited to the regional MRI done.

The traditional Bone Scan has poor sensitivity for detection of myeloma bone disease since these lesions are primarily osteolytic and may not produce a significant concomitant osteoblastic reaction and do not concentrate the bone tracers well. Hence this modality in not recommended in myeloma assessment. FDG PET-CT has emerged as an excellent technique for imaging myeloma lesions and can detect active disease much before it may be radiologically evident. It is excellent for follow-up evaluation of patients since X-ray and MRI changes at this time may be non-specific. Unfortunately, this modality has limited availability in our country and is also expensive.

In the absence of a PET scanner at Lilavati Hospital, we explored the use of another tracer - Tc99m Sestamibi, using the existing SPECT-CT gamma camera in Nuclear Medicine Department, LHRC. Tc-Sestamibi (Methoxyisobutyl-Isonitrile) is a lipophilic cationic radiotracer which concentrates in mitochondria of cells. It is routinely used for Myocardial Perfusion scans in all nuclear medicine departments. Tracer uptake in cells is linked to the mitochondrial transmembrane electric potentials - which is a function of the metabolic activity of cells. So, while FDG images metabolic activity of tumor cells due their increased usage of Glucose, Sestamibi images the same metabolic activity by demonstrating increased mitochondrial activity of these cells. It is also routinely used for imaging of certain solid tumors such as Brain tumors, Breast cancers (Scintimammography) and Parathyroid adenomas. There are few reports of its use in imaging multiple myeloma.

We combined Tc-Sestamibi with SPECT-CT which allowed us better resolution and characterization of lesions, and have found it a very useful modality for myeloma imaging. Below are a few representative examples of "Whole-body Mibi scans" in myeloma.

1. Useful in detection of disease extent at Diagnosis and also in Relapse

The following (Fig 1) is and example of a patient who has achieved complete remission with myeloma treatment protocol. However, 2 years later she had persistent back pain and fever and she was documented to have a relapse on the Mibi scan, indicating that this is an excellent modality not only for diagnosis but also follow-up.

TC 99M SESTAMIBI SCANNING FOR MYELOMA AT LILAVATI HOSPITAL

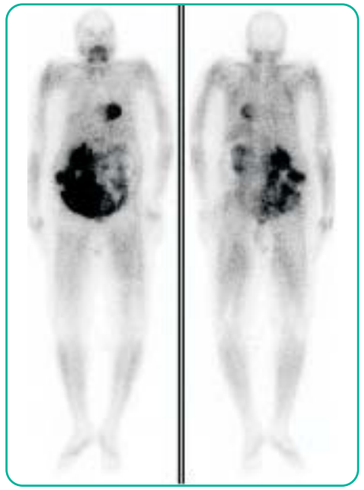


Fig 1A:

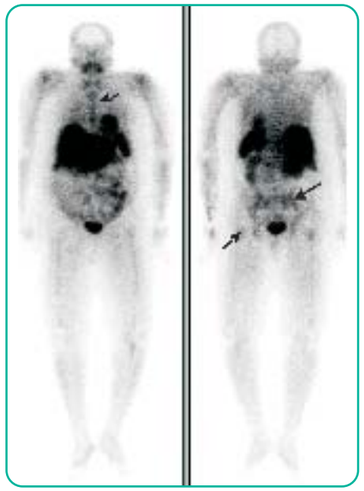


Fig 1B:

Fig 1: *Scan in Feb 2010(1A) showed no abnormal activity in the marrow. Scan in April 2012 (1B) showed extensive areas of active disease (arrows)in vertebrae, sternum, bilateral pelvic bones, ribs upper ends of femurs and humerii*

2. Is it only a plasmacytoma or are there other lesions too!?

This example (Fig 2) illustrates how a patient presented with chest pain and was found to have a pain on the manubrium sternum. He was diagnosed as a case of plasmacytoma on biopsy. The Mibi scan showed that there was an additional small focus of disease in the left clavicle. He was given local radiotherapy to the large sternal lesion. However, in 6 months he came back with body pain. A repeat Sestimibi scan showed that he now had other lesions and an abnormal biochemical report indicating disease spread and recurrence guiding us towards systemic therapy.

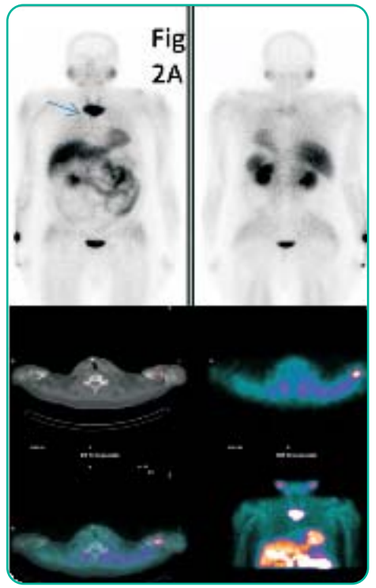


Fig 2A:

TC 99M SESTAMIBI SCANNING FOR MYELOMA AT LILAVATI HOSPITAL

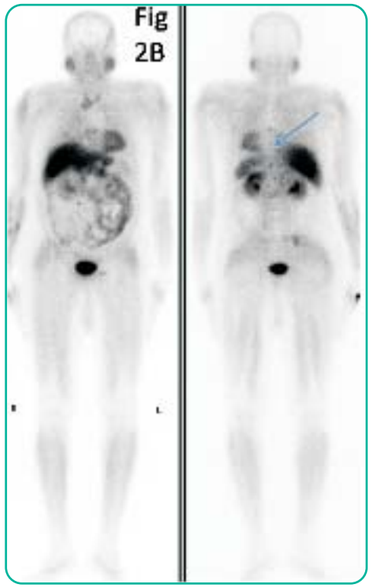


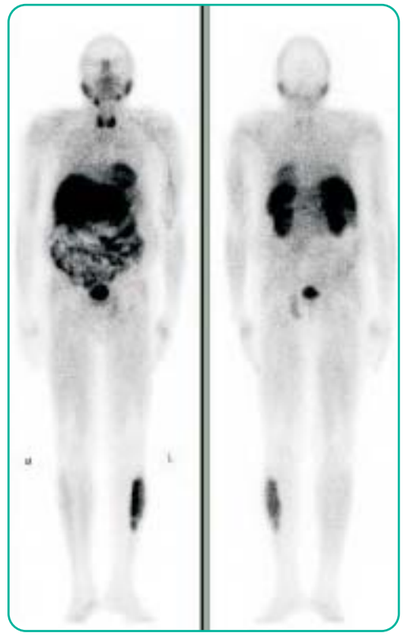
Fig 2B:

Fig 2: *At diagnosis a large active lesion seen in the sternum and a small lesion in lateral end of left clavicle and the follow-up scan after radiotherapy showing good resolution of the sterna lesion, but multiple new focal skeletal lesions*

3. Detects active disease not only in bone marrow but also soft tissue and lymph nodes.

This scan not only picks up activity in the bone but also in the soft tissues as amply seen in this case (Fig 3). The patient, a follow-up case of myeloma, had a slight limp but did not complain of severe pain in the leg, however, the Sestimibi scan showed a large myelomatous deposit in the region subsequently proved on a biopsy.

The other major advantage of this modality is that it allows whole body scanning and hence clinically unsuspected lesions can be identified, whereas Radiological surveys including MRI are typically loco-regional.



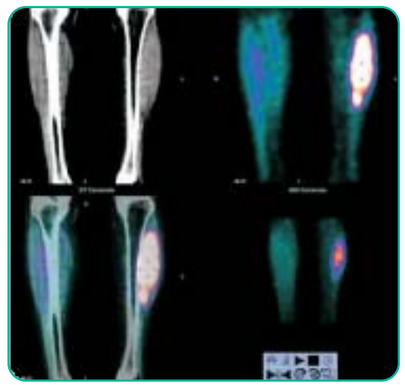


Fig 3: *Intense abnormal tracer uptake in left leg (a clinically unsuspected site of disease). Abnormal uptake also seen in left ischium, right 8th rib and a submandibular lymph node.*

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Sestimibi can highlight the areas of active disease so that loco-regional therapy may be an alternative to systemic therapy. It is also useful for guiding the site for bone marrow biopsy. If there was a conventional posterior superior iliac crest bone marrow test that was negative for myeloma, we could use the Sestimibi images to look at another site for an invasive biopsy to obtain a tissue for histopathology diagnosis. Also this helps in diagnosing active versus inactive lesions seen on imaging.

Cost effective study.

While the MRI, PET-CT and CT scans are expensive, we found that for the amount of information we were getting on our scan, this was a cost effective study, which can be performed using the existing gamma camera equipment and radiotracer. It is especially relevant in the interest of the patient population who are already burdened by the expenses of the disease.

FIRST UNUSUAL CASE OF UTERINE STROMAL CELL SARCOMA WITH RENAL METASTASES AND IVC THROMBUS EXTENDING TO THE RIGHT ATRIUM

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Dr Kirti Bhushan, *M.S,D.N.B (Surgical Oncology)*
Dr. Omi Jaiswal, *M.S., M.Ch. (Cardio Thoracic Surgery)*
Dr. Sanjay Sharma, *M.S, FICS, FACS (Surgical Oncology)*

INTRODUCTION:

Smooth muscle and endometrial stromal tumours represent the two most common uterinemesenchymalneoplasms. These tumours are treated by hysterectomy followed by radiation. Late metastases to the lung are known. We report a rare case of a uterine stromal cell cancer with pulmonary, renal metastases and IVC and right atrium metastases that was managed surgically. We highlight that in selected patients an aggressive surgical approach may improve the survival chances of these patients.

CASE REPORT:

A 60 year old lady presented to us in mid 2012 with symptoms of breathlessness and pedal edema and an overall reduced well being. She had undergone a panhysterectomy in 1991 for a stromal cell sarcoma of the uterus. She also received local radiation then. After ten years on routine followup she was detected with metastasis to the left lower lobe of the lung for which a wedge resection of lung was done. In 2010 again she was detected with another solitary metastatic nodule in the opposite lung that was again excised. This time in 2012 after imaging (CT, PET), we now detected a mass in the right kidney with an IVC thrombus. A 2D-echo confirmed extension into the right atrium.

After a multi disciplinary discussion and counseling of the patient and relatives, the patient was taken up for surgery. A right nephrectomy with IVC open thrombectomy was done under total circulatory arrest at sub 20 degrees celcius temperatures. Amidline incision was taken from the upper sternum to the pubic tubercle. The kidney was mobilized and the right atrium was opened. Simultaneously the thrombus in the IVC was excised and the specimen was removed in one piece with the right kidney. The heart was again rewarmed. The patient tolerated the procedure well and recuperated in the intensive care unit. Shewas ventilated for 24 hours and was gradually weaned off. She was later put on progestins.

RESULTS:

The specimen on histology confirmed metastatic uterine stromal cell sarcoma.

The patient after one year of surgery is doing well and is on close followup.

DISCUSSION:

Endometrial stromal tumors are the second most common pure mesenchymal tumors of the uterus even though they account for less than 10% of all such tumors. According to the latest WHO classification[1], the term endometrial stromal tumor is applied to neoplasms typically composed of cells that resemble endometrial stromal cells of the proliferative endometrium[1]. They are divided into: endometrial stromal nodules, low-grade endometrial stromal sarcomas, and undifferentiated endometrial sarcomas. Treatment of endometrial stromal sarcomas is largely surgical in the form of hysterectomy and bilateral salpingo-oophorectomy. These tumors are often sensitive to hormones and it has been stated that patients retaining their ovaries have a higher risk of recurrence[2].

As early as the 1950s, progestins were reported to havean antiestrogenic effect on the endometrium and to produce marked changes in the glands and stroma. This led to the concept that they might be useful in the treatment of endometrial cancer.[3]

Within the glandular epithelium of the endometrium, progesterone primarily acts as an antagonist to estrogen-mediated cell proliferation. Progesterone inhibits ER gene expression and enhances degradation of the ER.[4]

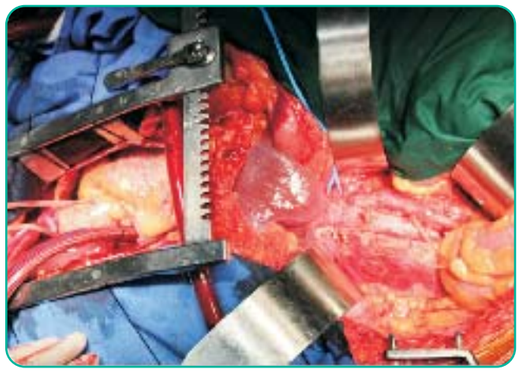
Shintaku et al reported a mixed endometrial stromal and smooth muscle tumor arising in the uterus of a 74-year-old woman is reported. The patient underwent hysterectomy for an enlarging uterine mass, and a large intramural tumor, showing marked central hyaline necrosis with calcification, was found. The tumor consisted of an admixture of a low-grade endometrial stromal sarcoma. A small metastatic nodule appeared in the lung nine months after the hysterectomy and histology confirmed metastatic stromal cell cancer.[5]

Mentrikoski et al described the importance of immunohistochemical analysis of the lung metastases of uterine stromal cell sarcomas.[6]

The prognosis of an adequately treated disease is good but it is know to have late recurrences. The lung is a common site of recurrence. To our knowledge no literature is yet available of the disease metastasizing to the kidney with an IVC and a right atrium thrombus.

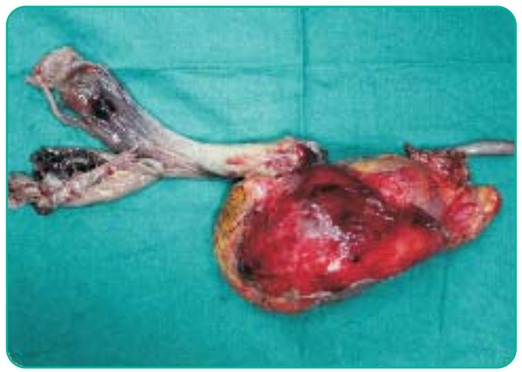
CONCLUSION:

The small number of published cases precludes definitive conclusions regarding standard management. The management of metastatic disease both surgical and non surgical needs to be investigated further. Hormonal therapy may be considered in recurrent disease with strong expression of estrogen and progesterone receptors. However, these findings need confirmation in larger studies.



Intraoperative photograph

FIRST UNUSUAL CASE OF UTERINE STROMAL CELL SARCOMA WITH RENAL METASTASES AND IVC THROMBUS EXTENDING TO THE RIGHT ATRIUM



Specimen photograph

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IT ADVANCES AT LILAVATI HOSPITAL

Role of Information Technology (I.T.) Department in the Hospital:

The role of IT Department is pivotal in the day to day operations of the Hospital. The IT department of the Hospital consisting of skilled Software Developers and Domain experts is instrumental in computerization of process from Admission to Discharge of the Hospital. Mentioned below are few areas where the IT Department plays a major role.

1. **Computerized System from Admission to Discharge:** Lilavati can proudly say that all its processes from Admission to Discharge have been developed in house and are computerized. All the transactions (whether clinical or non-clinical) are tracked and saved in the database. Various MIS reports are developed using BI(Business Intelligence) Tools and given to key Users for the purposes of analysis and to take key decisions involving the progress and betterment of the Hospital.

2. **Electronic Health Records:** Lilavati has been Digitizing health records of all the IP (In Patients) since the last 3 years. These records are maintained and preserved as per the department SOP and NABH requirements. The IT Department has plans to extend the digitization of records to OP (Out Patients) as well in the coming year.

3. **Clinical Support System-Innovative Ideas By IT Team @LH:** Lilavati Hospital's dedicated IT team has taken initiative to develop various applications to assist clinical and non clinical staff. Just to name a few the IT department has developed PIS (Patient Information System) and Doctor's Desk which are extensively used by the Doctors and Nursing staff to view Pathology reports online and generate Health Check Up reports. Software's like Voice Recognition Software have been introduced by the IT Department which converts speech to text and its all extensively used by the Radiologists. Efforts are on to identify other people whom the software can to given.

4. **Picture Archiving And Communication Systems (PACS):** The IT Department played a major role in the introduction of PACS in our Hospital last year. The system helps the Radiologists to get a deeper insight viewing of the X-ray, MRI and CT images.

5. **Tele-Medicine For Remote Location Medical Centres :** A pilot project is been carried out from the Hospital's 11th floor conference room by Dr. Karmarkar of Paediatric department for Tele-Medicine. Dr. Karmarkar is using the technology to connect to a remote location in Ratnagiri (Kankavali) and helping the doctors there in the treatment and diagnosis.

6. **Bar Code & RFID Scanning:** The Lilavati IT Department has introduced the concept of bar coding and scanning in the Billing, Wards, Pharmacy and other key departments to enhance the efficiency of the operators/users.

7. **Wi-Fi Environment:** Lilavati Hospital is a premier hospital catering to many VVIP's and Celebrities. Keeping this in mind the IT Department has been providing a complimentary Wi-Fi connectivity to the guests of those patients. The IT Department has plans to extend the facility across other areas.

BENEVOLENCE

The social service wing of the hospital-**SEWA**-works on the principle of **S**ervice **E**quality for the **W**elfare of **A**ll. SEWA has undertaken the health check-ups camps for Ashramshala students at ***Igatpuri & Pendharghol*** in the year 2011-12 & 2012-13. In each camp 350 students belonging to the weaker section were offered health check-up and drug treatment as required.

SEWA conducted health check-ups for the 95 senior citizens at **"AADHAR - A home for the aged"** in the month of August'2013.

With the adoption of new company's bill by the Government of India highlighting importance of corporate social responsibility, SEWA will enhance its sphere of activities in near future.

BENEFICIARIES

Year	Free OPD	Sewa Mobile Clinic
2011-2012	16327	23010
2012-2013	14965	24211

Camp at Pendharghol

Camp at Igatpuri

PHOTOGALLERY

Doctor's day celebrations

Unveiling of Lilavati Hospital Medical Times

7th June, Clinico Radiological Symposium

9th August CME on Pain Management

21st September,Surgical Workshop on Minimally access Spinal Technology.

HISTORY OF MODERN MEDICINE

Father of Modern Medicine

William Stewart Halsted
(September 23, 1852 - September 7, 1922)

He was an American surgeon who emphasized strict aseptic technique during surgical procedures, was an early champion of newly discovered anesthetics, and introduced several new operations, including the radical mastectomy for breast cancer. Along with William Osler (Professor of Medicine), Howard Atwood Kelly (Professor of Gynecology) and William H. Welch (Professor of Pathology), Halsted was one of the "Big Four" founding professors at the Johns Hopkins Hospital.

EPONYMS

Halsted's law: *transplanted tissue will grow only if there is a lack of that tissue in the host*

- Halsted's operation I: operation for inguinal hernia
- Halsted's operation II: radical mastectomy for breast cancer
- Halsted's sign: a medical sign for breast cancer
- Halsted's suture: a mattress suture for wounds that produced less scarring
- Halsted mosquito forceps: a type of Hemostat

WILLIAM OSLER QUOTES

- It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has.
- The good physician treats the disease; the great physician treats that patient who has the disease.
- One of the first duties of the physician is to educate the masses not to take medicine.
- Soap and water and common sense are the best disinfectants.
- The desire to take medicine is perhaps the greatest feature which distinguishes man from animals.

REGULATORY INFORMATION

Understanding Law and Legal framework of the constitution is imperative for any form of business or activity, including healthcare. Unfortunately, most of this information is scattered across various Acts and Statues. To add to this, legal language is very technical and difficult to be interpreted by a non-legal person. Inevitably, except for a selected few, the healthcare segment is largely oblivious and unaware of the various legalities governing it. This compilation is an effort to bridge the existing gap and providing the reader with all the relevant and latest laws which will help doctors to establish clinics and hospitals of high standards. The compilation brings together various Acts and Regulations, essential to be understood by the healthcare segment.

Various laws applicable to hospital

- Law related to governing the commissioning of hospital.
- Laws governing the qualifications / practice and conduct of professionals.
- Law governing storage / sale of drugs and safe medication
- Law governing Biomedical Research.
- Law governing to management of patients.
- Law governing medico legal aspects.
- Law governing the safety of patients, public and staff which the hospital premises and environmental protection.
- Law governing the safety of patients, public and staff within the hospital premises.
- Laws governing the employment of manpower
- Law governing to professional training and research
- Regulations governing the business aspects of hospital
- Various licenses / certificate required with sanctioning authority

FEEDBACK OF LHMT FIRST EDITION

Ms. Priya Dutt,
Member of Parliament

I am in receipt of the first issue of Lilavati Hospital Medical Times. It is a good activity to interact with people and inform them about the institution. The contents and articles are informative.

I would like to thank you for offering this relevant information on the current developments in the institution and wish you all the best to continue this activity in future.

Mr. Derrick Desa,
Chief Editor, Times of India

Read your inhouse publication with great interest. Nice piece of work. Well done, especially your editorial.

Dr. Aparna Mittal, ***ADG, UIDAI, Mumbai***

I received the first issue of Medical Times prepared and compiled by you. This email is my humble appreciation of your efforts. It is useful, well documented booklet on the hospital especially for layman like me. Please keep up the good work.

Mr. Satish Lalit,
Chief Public Relations officer, to the Chief Minister, Govt of Maharashtra

I am thankful to you for sending me the inaugural issue of your institution's house magazine "Lilavati Hospital Medical Times". It is indeed a great effort to bridge the gap between medical experts fraternity and common people. I must congratulate the editorial team for bringing out such a beautiful issue which suits the motto of your institute, "More than Healthcare, Human Care," very aptly.

In todays world, health related risks are increasing alarmingly. Health is related apply to lifestyle. Ideal health will however always remains a mirage, because everything in our life is subject to change. health may be described as potentiality the ability of an individual or a social group to modify himself or itself continually in the face of changing conditions of list not only in order to function better in the present but also to prepare for the future.

The importance of health in personal life cannot be minimized. It has come to be regarded as a prerequisite for optimum social-economic development of man. Health care as a right of every individual has been recognized in many countered. In this regard, Lilavati Hospital and Research Centre is an icon in the field of healthcare and doing a wonderful job.

As you have rightly said in your editorial, "Characteristics that were once seen as hallmarks of medicine have evolved" and this underline the need of continuous education. I hope your publication will cater the need of this most important neceddity of continuing education.

I wish you all the best in your new initiative and look forward for more informative issues of LHMT.

Thank you once again.

FEEDBACK OF LHMT FIRST EDITION

Mr. Umesh Kashikar, ***Media Worker***

I was happy to receive the inaugural issue of the news letter started by Lilavati Hospital. This is an excellent initiative that needs to be sustained.

A hospital, even a private one, is a social public institution. It is only appropriate for such an institution to have a silent dialogue between itself and its "publics" on a continuing basis. By "publics" I mean the society, the neighbourhood, the patients, past patients, doctors, paramedical staff, service providers and all other stakeholdrs.

The newsletter has provided all these stakeholders an excellent platform to exchange information and share ideas for further improving the service delivery and outreach of the hospital.

As a media worker, I have few suggestions.

First and foremost is naming the publication. Please pick a good name for the publication. In fact, you may like to involve your stakeholders in choosing a good name for the publication.

Secondly, making the publication more "general" than technical. This will require including a few articles of general interest penned by eminent doctors and researchers. This can for instance include articles on how invention of a particular drug or a particular medical procedure has radicaly altered the dynamics of healthcare. Such articles can be included in the initial pages.

There can be an interactive health column to be answered by a group of eminent doctors.

Technical write-ups meant for doctors and paramedical staff can be included in the last section of the publication.

Senior doctors and retired doctors from public hospitals with a wealth of experience should be invited to write in the publication on issues of public health and current topics related to health.

I am sure the publication will bring people closer to Lilavati and make them appreciate the efforts of all of you in serving the society.

Mr. Vijay Tawde,
Indian Oil Corporation

I happened to go through the Lilavati Hospital Medical Times. The journal has been one of the best I have seen in recent times. Segregation of contents with an index form is one detail which is not generally found in house journals. The language used is lucid which a lay person can also identify with. Pictures add to interest of reading.

Volume 1, Issue 1 will definitely serve as a ready reckoner of the hospital and will be helpful for future references. Looking forward to future editions. Wish you and your team all the best.

Mr. Sarang Koshe,
Unit Trust of India

Congratulations and Good Wishes to you from us. We are happy to receive the magazine which are very informative and useful for all of us and our staff members. We may mention here that your efforts for spreading the information as well as awareness are really helpful.

Dr. Deepak Ugra, ***Pediatrician***

Received a copy of Lilavati Hospital Medical Times. I congratulate the editorial team on the occasion of this beginning. Well designed and good contents on Imaging.

LATEST FEATHERS IN CAP...

Efforts and hard work put in by team Lilavati Hospital has resulted in various awards and accolades:

Hospital has been recognized as **"India's best Multi Specialty Hospital in Metro"** by ICICI Lombard and CNBC TV 18. The award was presented by Mr. Montek Singh Ahluwalia (Deputy Chairman - Planning Commission, Govt. of India) in 'India Healthcare Awards 2012' ceremony held at New Delhi.

- *Hospital is **Gold Winner** of **"Reader's Digest Trusted Brand Award 2012"** in category 'Speciality Hospital'.*
- *In 2011; 'THE WEEK' magazine has rated Hospital as **'Number 1 Superspeciality Hospital in Mumbai'.***
- *Hospital has been rated amongst **'Top 10 Hospitals of India'** for 5 consecutive years (2007, 2008, 2009, 2010 & 2011) by 'THE WEEK' magazine.*
- *Hospital emerged as the **Runner-Up** in the category **India's Most Popular Maternity Hospital;** in the inaugural edition of **Child Best Awards 2013** by Child India magazine.*

- *Hospital is an official **ESMO (European Society for Medical Oncology) Asia CME Partner** Centre in Colorectal Cancer program in India.*
- *Quality Council of India (QCI) has accredited* LILAVATI HOSPITAL & RESEARCH CENTRE *with **NABH** in February 2011.*

In order to ensure that entire system is process driven and not person / individual driven; we decided to get Lilavati Hospital NABH (National Accreditation Board for Hospitals and Healthcare Providers) Accredited.

NABH is need of the hour. It broadly focuses on Structure, Processes and Outcomes. NABH accreditation helps in enhancing Patient Satisfaction, Employee Satisfaction and Operational Efficiency by: ensuring ownership of clinical and non-clinical functions at all levels by suitably qualified and experienced professionals, ensuring that employees follow laid down policies and procedures and by monitoring key indicators for continual improvement.

SERVICES

MEDICAL
Anesthesiology
Audiology and Speech therapy
Cardiology
Chest Medicine
Chronic Pain management
Dental
Dermo Cosmetology
Diabetology & Endocrinology
Gastroenterology
Haematology
Hair Transplant
Internal Medicine
Infectious diseases
Nephrology
Neurology
Head and Migraine Clinic
Psychiatry / Psychology / Neuropsychology
Medicine Oncology
Pediatrics
Rheumatology
Sleep Medicine

LABORATORY SERVICES
Pathology
Microbiology
Histopathology
Blood Bank

CRITICAL CARE
Intensive Care Unit (ICU)
Intensive Cardiac Unit (ICCU)
Surgical Intensive Care Unit (SICU)
Paediatric Intensive Care Unit (PICU)
Neo-Natal Intensive Care Unit (NICU)
Paralysis & Stroke Unit

SURGICAL
Bariatric Surgery
Cardiothoracic Surgery
Colorectal Surgery
ENT and Head & Neck Surgery
Gastro Intestinal Surgery
General Surgery
Gynecology, Obstetrics & IVF
Transplant: Corneal & Kidney
Minimal Invasive Surgery (Laproscopic Surgery)
Neuro Surgery
Spine Surgery
Onco Surgery
Ophthalmology
Orthopedics, Sports Medicine
Pediatric Surgery
Plastic & Reconstruction Surgery
Urology, Andrology
Vascular Surgery

DIAGNOSTICS
Imaging Services
CT
MRI
X-ray
BMD
OPG
Sonography (USG)
Mammography
Nuclear Medicine
Interventional Radiology

24 HRS SERVICES
Ambulance
Emergency
Pharmacy

DOCTORS ASSOCIATED WITH LILAVATI HOSPITAL

Andrologist
Dr. Shah Rupin S.

Anaesthesiologist
Dr. Mascarenhas Oswald
Dr. Merchant Ami
Dr. Barot Hemangini
Dr. Bakshi Vaibhavi
Dr. Budhakar Shashank
Dr. Gandhi Nisha
Dr. Gaiwal Sucheta
Dr. Gawankar Prakash
Dr. Kharwadkar Madhuri
Dr. Kulkarni Satish K.
Dr. Mahajan Anjula
Dr. Khatri Bhimsen
Dr. Shah Falguni

Audiology & Speech Therapists
Dr. Bhan Satyan
Dr. Gorawara Pooja
Dr. Parulkar Bakul
Dr. Patadia Rajesh

Cardiovascular Surgeons
Dr. Bhattacharya S.
Dr. Jaiswal O. H.
Dr. Kaushal Pandey
Dr. Kumar Pavan
Dr. Rachmale G. N.
Dr. Nand Kumar
Dr. Mehra Arun P.
Dr. Shetty Mohan
Dr. Joshi Suresh
Dr. Honnekeri Sandeep T.
Dr. Hamdulay Z.

Cardiologists
Dr. Ballani Prakash H.
Dr. Bang Vijay
Dr. Dargad Ramesh R.
Dr. Gokhale Nitin S.
Dr. Hemant Kumar
Dr. Jhala Darshan
Dr. Kothari Snehal N.
Dr. Lokhandwala Yash
Dr. Mehan Vivek
Dr. Mehta Ashwin B.
Dr. Merchant S. A.
Dr. Menon Ajit R.
Dr. Nabar Ashish
Dr. Punjabi Ashok H.
Dr. Samuel K. Mathew
Dr. Sanzgiri P. S.
Dr. Shah Chetan
Dr. Sharma Anil K.
Dr. Suratkal Vidya
Dr. Vijan Suresh
Dr. Vyas Pradeep R.
Dr. Vora Amit
Dr. Vaishnav Sudhir
Dr. Mehta Haresh G.

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Dr. Mehta Sanjeev K.
Dr. Prabhudesai P. P.
Dr. Parkar Jalil D.
Dr. Rang Suresh V.
Dr. Chhajed Prashant

Colorectal Surgery
Dr. Chulani H. L.

Dentistry / Dental Surgeons
Dr. Bhavsar Jaydeep P.
Dr. Deshpande Dilip
Dr. Gala Dhimant
Dr. Joshi P. D.
Dr. Khatavkar Arun
Dr. Kamdar Rajesh J.
Dr. Parulkar B. P.
Dr. Parulkar Darshan

Department of Imaging
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Dr. Deshmukh Manoj
Dr. Kulkarni Makrand
Dr. Mehta Mona
Dr. Ingule Amol
Dr. Chauhan Sonal
Dr. Sobti Shyam K.
Dr. Chatterjee Parangama

Dermatologists
Dr. Goyal Nilesh
Dr. Oberai Chetan
Dr. Mehta Nimesh
Dr. Parasramani S. G.

Diabetologists
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Dr. Panikar Vijay

ENT Surgeons
Dr. D'souza Chris E.
Dr. Kapadia Sanjay P.
Dr. Pusalkar A.
Dr. Parasram Kamal S.

Gastro Surgeons
Dr. Bharucha Manoj
Dr. Kulkarni D. R.
Dr. Mehta Hitesh
Dr. Varty Paresh
Dr. Wagle Prasad K.
Dr. Zaveri Jayesh P.

Gastroenterologists
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Dr. Gupta Ravi
Dr. Kanakia Raju R.
Dr. Khanna Sanjeev
Dr. Phadke Aniruddha Y.
Dr. Parikh Samir S.
Dr. Shah Saumil K.

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Dr. Mehta Narendra
Dr. Shastri Satyanand B.
Dr. Shetty Sadanand V.
Dr. Trivedi Narendra

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Dr. Coelho Kiran S.
Dr. Dhanu Ranjana V.
Dr. Dhanu Vilas R.
Dr. Nanavati Murari S.
Dr. Pai Rishma D.
Dr. Palshetkar Nandita
Dr. Pai Hrishikesh
Dr. Shah Cherry C.
Dr. Goyal Swarna

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Dr. Bhave Abhay

Headache & Migraine Clinic
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Infectious Diseases Consultant
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Intensivist
Dr. Vas Conrad Rui
Dr. Ansari Abdul
Dr. Jiandani Prakash

Interventional Radiologists
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Dr. Warawdekar Gireesh
Dr. Limaye Uday S.

Joint Replacement Surgeons
Dr. Maniar Rajesh N.

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Dr. Shah Arun
Dr. Suratkal L. H.
Dr. Upadhyaya Kirti L.

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Dr. Sirsat Ashok M.
Dr. D'souza Cheryl
Dr. Dalal P. M.
Dr. Vyas Ajay

Neuropsychologist
Dr. Panjwani Siddika

Neuro Surgeons
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Dr. Goel Atul
Dr. Dange Nitin
Dr. Shah Rajan

Nuclear Medicine
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Dr. Luthra Karuna

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Dr. Smruti B. K.
Dr. Pendharkar Dinesh

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Dr. Jagannath P.
Dr. Parikh Deepak
Dr. Sharma Sanjay
Dr. Shah Rajiv C.

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Dr. D'souza Ryan
Dr. Mehta Salil
Dr. Nadkarni Shivram
Dr. Nagvekar Sandip S.
Dr. Shah Manish
Dr. Vaidya Ashish R.
Dr. Mehta Himanshu

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Dr. Archik Shreedhar
Dr. Chaddha Ram
Dr. D'silva Domnic F.
Dr. Desai Sanjay S.
Dr. Deshmukh Niranjan
Dr. Garude Sanjay
Dr. Joshi Anant
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Dr. Nadkarni Dilip
Dr. Padgaonkar Milind
Dr. Panjwani Jawahar S.
Dr. Vengsarkar Nirad S.
Dr. Vatchha Sharookh P.
Dr. Warrier Sudhir
Dr. Thakkar C. J.
Dr. Kohli Amit

Pathologists
Dr. Chavan Nitin
Dr. Dhunjibhoy Ketayun R.
Dr. George Asha Mary
Dr. Rangwalla Fatema
Dr. Mehta Kashvi
Dr. Saraswat Shubhangi
Dr. Tampi Chandralekha

Paediatric Surgeons
Dr. Johari Ashok (Ortho)
Dr. Karmarkar Santosh J.
Dr. Redkar Rajeev G.

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Dr. Ali Uma
Dr. Avasthi Bhupendra
Dr. Chittal Ravindra
Dr. Gupta Priyam
Dr. Kanakia Swati R.
Dr. Lokeshwar M. R.
Dr. Mehta Kamini
Dr. Shah Krishnakumar N.
Dr. Sharma Shobha
Dr. Ugra Deepak

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Dr. Jain Jitendra

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Dr. Dalvi Sunil G.
Dr. Jadwani J. P.
Dr. Gidwani Vinod N.
Dr. Medhekar Tushar P.
Dr. Shimpi Shrikant

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Dr. Pandya Narendra
Dr. Purohit Shrirang

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Dr. Shah Bharat R.
Dr. Vahia Vihang N.

Psychologist
Dr. Chulani Varkha

Physician / Rheumatologist
Dr. Sangha Milan
Dr. Kalke Shubhada

Physiotherapist
Dr. Garude Heena

Spine Surgeon
Dr. Bhojraj Shekhar
Dr. Mohite Sheetal

Urologists
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Dr. Raina Shailesh
Dr. Sanghvi Nayan
Dr. Shah Sharad R.
Dr. Vaze Ajit M.
Dr. Raja Dilip

Urological Laparoscopic Surgeon
Dr. Ramani Anup

Vascular Surgeons
Dr. Patel Pankaj
Dr. Pai Paresh

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Affection cannot be valued in materialistic form and nothing can be more important than one's health. You've gifted your loved ones with things that add happiness to their lives. Now, gift them something that takes care of their health. It is always important to monitor health, not only when the need arises, but also before the need is felt.

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