LILAVATI HOSPITAL

MEDICAL TIMES

FEBRUARY 2017

Lilavati Hospital and Research Centre

More than Healthcare, Human Care

NABH Accredited Healthcare Provider

Contents

All the correspondence should be addressed:

To,
The Editor
Lilavati Hospital Medical Times
Lilavati Hospital & Research Centre
A-791, Bandra Reclamation, Bandra (W)
Mumbai - 400 050.
Fax: 91-22-2640 7655
Email:medicaltimes@lilavatihospital.com

Editorial

At the onset I would like to wish all our readers a very Happy, Prosperous and Healthy New year. With your participation and support it gives me immense pleasure to present yet another informative issue of Lilavati Hospital Medical Times (LHMT).

We can summarize the past year as a journey of transformations. Government introduced its most stringent movement in order to curtail corruption and it also re-emphasized its vision to provide access to minimum set of healthcare services to one and all. This goal might seem to be a herculean task but it is possible to achieve if government and the private sectors work hand in hand beginning with an inclusive and transparent dialogue for India's long term affordable and advanced healthcare system.

We all might agree that the level Indian healthcare system varies from states and demographic segments within the population. Though this challenge is unique and complex it yet offers opportunity to all the healthcare professionals & institutes to largely contribute for better healthcare services across the country.

This edition of LHMT offers insight into the new initiatives taken by our hospital and a variety of informative case reports presented by our experts in Anesthesiology, Cardiovascular and Thoracic Surgery, Chest Medicine, General Surgery and Pediatrics.

Besides this we have our straight from the heart section that illustrates the appreciations received for our relentless efforts. We have also enclosed details of recent CMEs that are regularly conducted to spread information to the medicos who want to keep pace with the cutting edge technology and the latest medical techniques practiced.

I would be glad to receive any feedback from you which will help me in making LHMT event better. We all at Lilavati Hospital and Research Centre always strive to improve in all areas of life and I look forward for your involvement to a greater extend to broaden our reach to larger section of people and taking LHMT to the next possible level.

Dr. Sanjeev Mehta
Chief Editor

Overview: Lilavati Hospital & Research Centre

Late Shri Kirtilal Mehta

Late Smt. Lilavati K. 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 started by late Shri Kirtilal Manilal Mehta. The Trust has engaged in innumerable charitable endeavors across India.

The Lilavati Kirtilal Mehta Medical Trust is being managed and administered by Board of Trustees:	
Shri Prabodh K. Mehta	Shri Nanik Rupani
Shri Kishor K. Mehta	Shri K. K. Modi
Shri Rashmi K. Mehta	Shri Niket V. Mehta
Smt. Rekha H. Sheth	Shri Chetan P. Mehta
Smt. Sushila V. Mehta	Shri Bhavin R. Mehta
Smt. Charu K. Mehta	
Principal Advisor to the Board of Trustees and Lilavati Hospital & Research Centre **Shri S. Lakshminarayanan, IAS (Rtd.)**	

Lilavati Hospital And Research Centre

Late Shri Vijay Mehta wished to fulfill his parents desire to build a 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 multispecialty tertiary care hospital located in the heart of Mumbai, close to the domestic and the international airport. It encompasses modern healthcare facilities and state of art technology dedicatedly supported by committed staff.

Lilavati Hospital has focused its operation on providing quality care with a human touch; which truly reflects the essence of its motto, “More than Healthcare, Human Care”. Being a centre of medical excellence where technology meets international norms and standard, the hospital has got what it takes to be a pioneering quality healthcare institute that is also 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*

Highlights

- 323 bedded hospital including 77 intensive care beds
- 12 state-of-the-art well equipped operation theatres
- Full-fledged Dental & Dermo cosmetology clinic
- State of art PET – SPECT CT department
- Lilavati Hospital is recently equipped with Coronary GRAFT Patency Flowmeter which is first of its kind in India. This imaging system is used in Cardiac surgery to assess GRAFT flow / perfusion in coronary bypass surgery.
- The hospital has added Intraoperative Nerve Monitoring system which enables surgeons to identify, confirm and monitor motor nerve function of the patients which helps to reduce the risk of nerve damage during various operative surgeries.
- The hospital has upgraded its ENT department by adding a top-of-the line surgical operating microscope to carry out various microsurgeries under high magnification. The microscope electronics allows the surgeon to electronically control object focusing, magnification,illumination, surgical recording, etc.
- All days round the clock OPD Pathology and Radiology investigations without any Emergency charges.
- ICU Emergency charges after 8pm are kept at par with the day time and additional charges are withdrawn.
- More than 300 consultants and manpower of nearly 1,800.
- Hospital attends to around 300 In-patients and 1,500 Out-patients daily.
- Modern Cathlabs having specialized SICU & ICCU with highly trained cardiac care medical staff
- Lilavati Kirtilal Mehta Medical trust is an approved research organization by Ministry of Science & Technology having all modern facilities necessary for conducting research

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 healthcare 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 aim 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.

HEART FAILURE CLINIC

Lilavati Hospital has recently introduced comprehensive Heart Failure Clinic

Key Features

- Specialized biochemistry tests to ascertain prognosis, therapeutic modalities & long term implication on patient with heart failure.
- Well-equipped non-invasive Cardiology department.
- Team of dedicated well-qualified Cardiologists backed by Heart Failure co-ordinator.
- Customized patient care by trained heart failure rehabilitation team.
- Dedicated Dietician for standardized dietary regimen.
- Advance Electrophysiology, Endocrinology & Sleep lab with specialized consultants.

URODYNAMICS

Lilavati Hospital & Research Centre has installed the Urodynamics system from LABORIE Canada, a leading manufacturer in the field. The hospital now offers a complete set of Urodynamic studies at the new setup. Urodynamic studies provide extremely valuable diagnostic data for any of the bladder dysfunctions.

Typical Urodynamic testing consists of below:

- Uroflowmetry
- Filling Cystometry
- Pressure-flow study
- Urethral pressure profiles (UPP)
- Valsalva Leak Point Pressure (VLPP)
- Electromyography (EMG)

Case Report: Anaesthesiology

Anaesthesia for Awake Craniotomy

Dr. Vaibhavi Baxi, DA, FCPS, DNB (Anesthesiology)

Abstract:
Awake craniotomy presents challenges to both anaesthetist and surgeon. We present the case of a 33 years old male patient diagnosed with grade II glioma in the right parietotemporal region. As the tumour involved the motor area it was decided to do an awake craniotomy with cortical mapping to preserve motor functions. Awake craniotomy can be managed with different anaesthetic techniques ranging from local anaesthesia or local anaesthesia with sedation to intermittent general anaesthesia. We managed this case with a scalp nerve block as local anaesthesia plus intravenous sedation without airway instrumentation. We reviewed the literature about patient management during awake craniotomy.

Introduction:
Awake craniotomy was introduced for surgical treatment of epilepsy and has subsequently been used in patients with supratentorial tumors, arterio-venous malformation, deep brain stimulation and mycotic aneurysms near critical regions of brain.[1,2] Awake craniotomy offers increased lesion removal whilst minimizing damage to eloquent cortex and resulting postoperative neurological dysfunction. [3] Other advantages include reduced postoperative morbidity, shorter hospitalization time hence reduced cost of care. During awake craniotomies, active participation by the patient is necessary to facilitate cortical mapping as response to stimulation of the cerebral cortex guides the surgeon's intraoperative decisions. The primary goal of the anaesthesiologist is to make the operation safe and effective by reducing the psychophysical distress of the patient, who has an open skull with a surgical team manipulating the contents. The anaesthetic management for this surgery includes sedation, analgesia, respiratory and hemodynamic control and a responsive, cooperative patient for neurologic testing intraoperatively.

Case Report:
A 33 years old 75 kg male patient was scheduled for an awake parietotemporal craniotomy for resection of 2.8 X 1.9cm grade II glioma in the right parietotemporal region. Patient had history of two episodes of seizures in the month before surgery and was diagnosed of the tumour by Magnetic resonance imaging (MRI) of brain. In view of the fact that anatomically, the tumour involved motor tracts, it was decided to perform awake craniotomy in order to carry out intraoperative monitoring with the aim of preserving the motor functions while resecting the tumour.

Preoperative assessment revealed no neurological deficit. He was on Tablet Levetiracetam 500mg three times a day for seizure prophylaxis. Airway was normal with Mallampatti classifaction grade one. Lab reports were reviewed and were within normal limits.

Preoperative vital signs were a pulse rate of 56/min and blood pressure of 114/72 mm Hg. An 18-g intravenous (IV) catheter was inserted in the right hand. Standard monitors were placed, including electrocardiography (ECG), noninvasive blood pressure monitoring, pulse oximetry, capnography and Bi-Spectral Index (BIS). Simple Nasal prongs were placed with 2 L/min of oxygen.

It was decided to perform bilateral regional scalp block with combination of lignocaine 2% and bupivacaine 0.5%, injecting 1.5 ml into each of the points: supraorbital, supratrochlear, zygomaticotemporal and auriculotemporal; the greater and lesser occipital nerves and greater auricular nerve. (Fig. No. 1) While greater and lesser occipital nerve and greater auricular nerve blocks were given with patient in sitting position (Fig. No. 2) for surpaorbital, supratrochlear, auriculotemporal and zygomaticotemporal nerve blocks; (Fig. No. 3) patient was made supine and given sedation to reduce his anxiety. Midazolam 2 mg, glycopyrrolate 200mics, ondansetron 8mg and paracetamol 1gm was given intravenous and an infusion of dexmedetomedine was started at the rate of 0.5mic/kg/hr. Monocef 1gm was given after test dose slowly over 20 mins.

For the surgery patient was in supine position with head turned to the left, breathing spontaneously oxygen through nasal prongs and with a capnography line in situ. Neurophysiologist placed various electrodes in both left upper and lower limbs to assess any neurological deficit during surgery. Fentanyl 25 mic and propofol 40 mg were given intravenous at the beginning of the surgery. Right parietotemporal incision was taken and flap elevated. Right parietotemporal craniotomy was then done. No significant changes in haemodynamic variables occurred, maintaining a BIS ranging from 55 to 65. Prior to opening the dura mater, pledgets soaked in lignocaine 2% were placed over the dura for few seconds. We then reduced the dexmedetomedine infusion to 0.2mic/kg/hr resulting in increase of BIS to 70-80. The surgeon proceeded to perform cortical stimulation in areas adjacent to the tumour while the neurophysiologist conducted several tests to assess motor power in both left upper and lower limbs. Tumour tissue was then excised under continuous neuromonitoring and tissue sent for frozen section. Haemostasis was then achieved and bone flap placed with closure in layers.

The patient remained awake for 60 mins. He had no intra-anaesthetic complications and did not develop any neurological deficits following the resection.

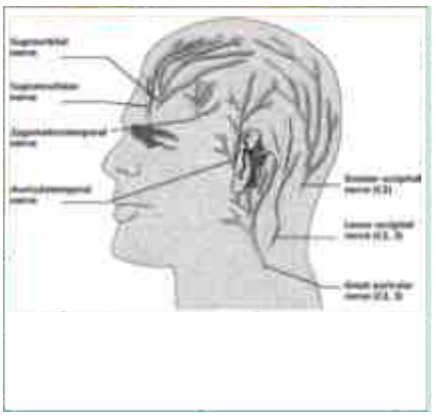


Fig No.1 Scalp Innervation

Fig No. 2 Greater and lesser occipital and greater auricular nerve block

Fig No. 3 Supraorbital, supratrochlear and zygomaticotemporal nerve block

Discussion:

Resection of tumour in the eloquent cortex of the brain has an inherently high risk of postoperative neurologic morbidity. Intraoperative wake-up testing or awake craniotomy is becoming increasingly more popular to aid in resection of tumours within the eloquent cortex. Awake craniotomy poses unique challenges, especially for the anaesthetist, who is faced with an unprotected airway and limited access to the patient due to positioning and pinning of the head. [4] Therefore, appropriate patient selection is of utmost importance for this method. Patients must be cooperative, have a thorough understanding of the procedure, able to lie still for an extended time, and not have profound existing neurologic deficit. Patients who are obese, have esophageal reflux, sleep apnea and difficult airways are not good candidates for this type of craniotomy procedure.

All anaesthetic techniques for managing awake craniotomy are designed to allow resection and/or neurological functional mapping with greater protection of areas of the brain that control both motor function and speech. [5,6] Patients require sedation or general anaesthesia until the brain is exposed and again at the end of surgery while the cranium is closed. The anaesthetic technique used must provide adequate sedation and analgesia, maintenance and control of respiratory and hemodynamic parameters and an awake and cooperative patient during neurologic testing. The techniques published in the literature vary from local anaesthesia with or without intravenous sedation to intermittent general anaesthesia with or without instrumentation of the airway, known as awake---awake---awake, asleep---awake---awake and asleep---awake---asleep craniotomy. [7,8] In our case, we opted for local anaesthetic and intermittent intravenous sedation for an asleep---awake---asleep approach.

The challenge for the anaesthetist is to provide sedation, anxiolysis and optimal analgesia during preparation and brain exposure, while keeping the patient immobile, comfortable with a maximum level of alertness for mapping and tumour resection. And also avoid hypoxaemia, hypercapnia, nausea, vomiting, seizures and haemodynamic instability while maintaining optimum operative conditions in terms of surgical exposure and relaxation of the brain mass as in any other craniotomy. [9,10]

Dexmedetomidine, a selective α2 adrenoreceptor agonist is being increasingly used to provide sedation and analgesia for awake craniotomy as it does not cause respiratory depression, as is possible with other anaesthetic agents and it reduces intraoperative and postoperative anaesthesia requirements; however, hypotension and bradycardia have been noted.

Another technique used for awake craniotomy involves induction with propofol and a short acting opioid like remifentanil infusion. A laryngeal mask airway is placed with spontaneous breathing. At the time of neurologic testing anaesthesia is stopped and the LMA is removed. After the awake portion is completed, anesthesia is induced once again and LMA reinserted until the end of surgery. The advantage of this technique is that it provides airway protection and an ability to provide a deeper level of anaesthesia for the patient during the most painful and stimulating parts of the surgery.

The bispectral index as part of monitoring for awake craniotomy is useful for predicting complete return to consciousness when preparing to perform brain mapping. We maintained BIS between 70-80 and it was possible to perform cortical mapping with an appropriate level of consciousness.

Conclusion:

Main indication for awake craniotomy is the need for neurophysiological monitoring for location of the tumour and resection of lesions in or near eloquent areas. Different anaesthetic techniques have been used for awake craniotomy however scalp block is essential for adequate analgesia. A wide range of intravenous agents is reported in the literature, but the most commonly used are dexmedetomidine, propofol and ultra-short-acting opioids.

In this article we report a successfully managed case of awake craniotomy in addition to information that may aid decision-making in other similar cases.

References:

1. Duffau H, Capelle L, Sichez JP, Faillot T, Abdennour L, Law Koune JD, et al. Intra-operative direct stimulations of the central nervous system: The Salptrière experience with 60 patients. Acta Neurochir (Wien) 1999;141:1157–67.
2. Lüders JC, Steinmetz MP, Mayberg MR. Awake craniotomy for microsurgical obliteration of mycotic aneurysms: Technical report of three cases. Neurosurgery. 2005;56(1 Suppl):E201.
3. Yordanova YN, Moritz-Gasser S, Duffau H. Awake surgery for WHO grade II gliomas within 'noneloquent' areas in the left dominant hemisphere: toward a 'supratotal' resection. J Neurosurg 2011;115:232-239.
4. Sarang A, Dinsmore J. Anaesthesia for awake craniotomy—evolution of a technique that facilitates awake neurological testing. Br J Anaesth. 2003;90(2):161-165.
5. Rajan SP, Cata J, Nada E, et al. Asleep---awake---asleep craniotomy: a comparison with general anesthesia for resection of supratentorial tumors. Neurol Clin Neurosci. 2013;20:1068---73.
6. Costello TG. Awake craniotomy and multilingualism: language testing during anaesthesia for awake craniotomy in a bilingual patient. Neurol Clin Neurosci. 2014;21:1469---70.
7. Hansen E, Seemann M, Zech N, et al. Awake craniotomies withoutany sedation: the awake---awake---awake technique. Acta Neurochir. 2013;155:1417---24.
8. Zemmoura I, Fournier E, El-Hage W, et al. Hypnosis for awake surgery of low-grade gliomas: description of the method and psychological assessment. Neurosurgery. 2016;78:53---61.
9. Deras P, Moulinie G, Maldonado IL, et al. Intermittent general anesthesia with controlled ventilation for asleep---awake---asleep brain surgery: a prospective series of 140 gliomas in eloquent areas. Neurosurgery. 2012;71:764---72.
10. Fogarty Mack P, Perrine K, Kobylarz E, et al. Dexmedetomidine and neurocognitive testing in awake craniotomy. J Neurosurg Anesthesiol. 2004;16:20---5.

Case Report: Cardiovascular and Thoracic Surgery

Successful Coronary Artery Bypass Surgery in Extremely Poor Heart function (Low EF 13%) Patient

Dr. Pavan Kumar, MS, MCh. (Cardiovascular & Thoracic), FIACS
Dr. P. Sanzgiri, MD (Med), DM (Cardiology)
Dr. Leena Pawar, DA, DNB Cardiac Anesthetist

Mr. L.G., aged 53 years was admitted on Dec 24th, 2016 in the ICU of our hospital with congestive cardiac failure and pulmonary edema. Past history suggested two myocardial infarctions in last 3 years and chronic airway obstructive disease due to heavy smoking. Pre-admission echocardiography done elsewhere suggested 15% LVEF. Patient was treated with aggressive decongestive therapy with pleural aspiration of 1000 cc transudate collection. After optimal medical management, coronary angiography was carried out on 28/12/2016 by Dr. Sanzgiri. Angiography revealed 100% occlusion of LAD & RCA & 90% stenosis of non-dominant circumflex coronary artery. In view of this finding PET CT scan was done on 30/12/2016 to know the viable myocardium. PET CT Scan showed viable anterolateral & infero lateral & entire ventricular septum,suggesting beneficial myocardial revascularisation surgery to patient. PET CT Scan showed LVEF to be 13% only.

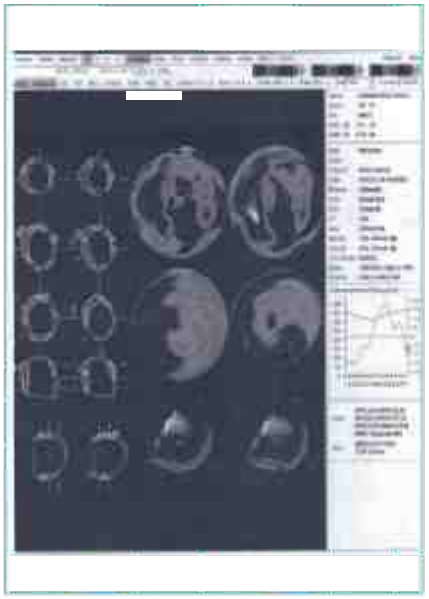
This high risk CABG was carried out on 3/1/2017 by Dr.Pavan Kumar & team. Pre-operative Pulmonary Artery pressures were 82/46 mmHg & L.A (Left Atrium) pressures were 20/12 mmHg suggesting minimal MR. Patient was prepared by vasodilators & inotropes supports before anesthesia induction. Patient underwent ON PUMP CABG X 3 where left internal mammary artery was used for LAD & reversed saphenous vein graft used for PDA & PLV branches of right coronary artery. Intra-aortic balloon pump was used to wean off from cardiopulmonary bypass successfully.

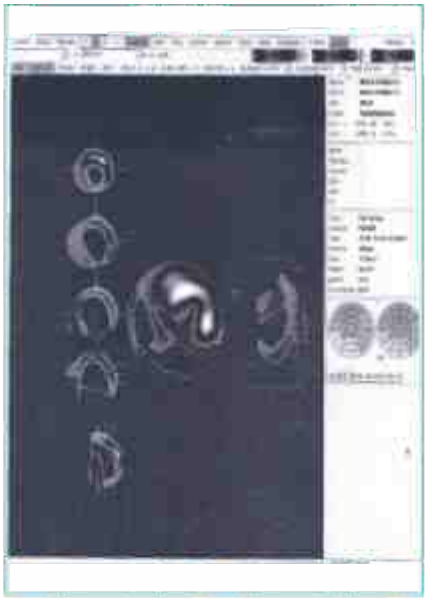
Inotrope support & IABP support was gradually weaned off during post-operative care in ICU. Ventilatory support was also weaned off in 3 days & patient was transferred to wards on 08/01/2017 with intermittent BIPAP oxygen support. Post-operative Echo done on 10/01/2017 suggested improvement in heart function to LVEF 25%.

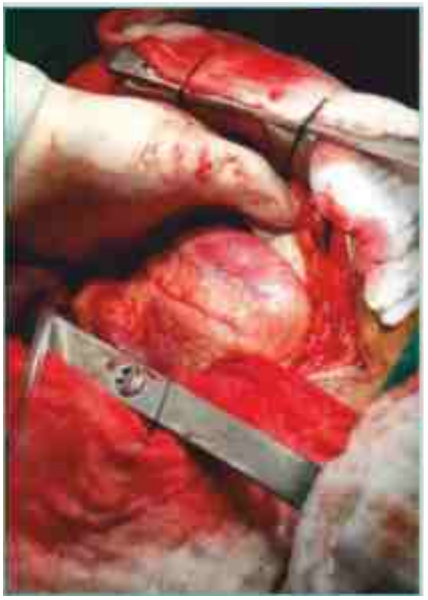
Discussion:

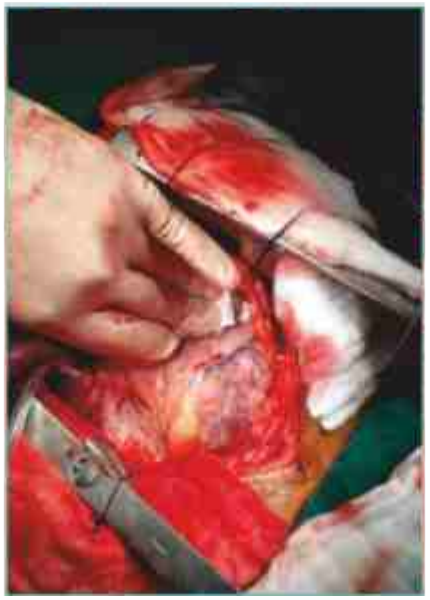
Coronary Bypass surgery in extremely poor heart function of EF 13% comes in very high risk category heart surgery. Risk being 10-15%.Normally these patients are candidate for heart transplantation or left ventricular assist device support as bridge to transplant. Due to fact shown by PET-CT scan done on this patient showing viable myocardium, surgical revascularization was advocated.

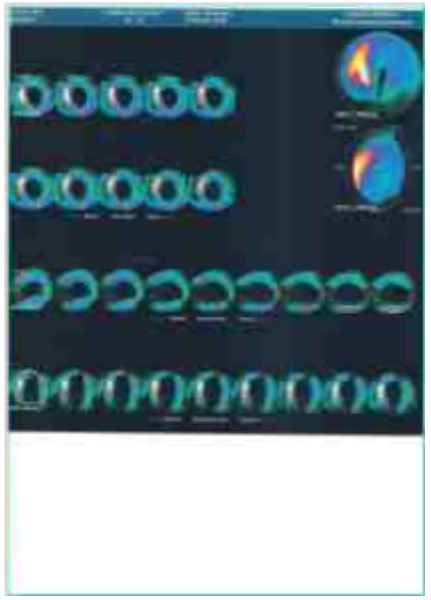
This high risk CABG involves proper pre surgical preparation of lowering grade III high pulmonary artery pressures while maintaining good systemic blood pressure & short cardio-pulmonary bypass with myocardial protection to carry out full coronary revascularization. Supported IABP for quick wean off from cardio pulmonary bypass helps in completion of surgical procedure. Adequacy and benefits of surgical coronary revascularization can be seen from satisfactory post-operative recovery & improvement of heart function after surgery.











Case Report I: Chest Medicine

Unusual Case of Respiratory Failure

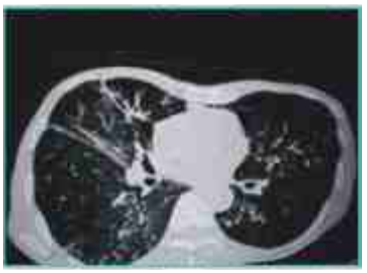
Dr. P. Saitheja Reddy, MBBS, DNB Trainee - 2nd Year
Dr. Sanjeev Mehta, MD, FCCP

Introduction:

Breathlessness and respiratory failure are not unusual, but can be a diagnostic challenge, often with dire consequences. We present an unusual case of respiratory failure.

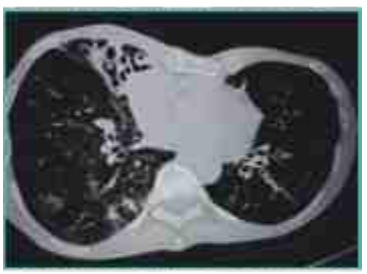
Case report:

A 66 years old male patient presented with progressive exertional dyspnea (grade 2 to grade 4), cough, muco-purulent expectoration, weight loss of around 15 kgs for past six months. He had episodes of breathlessness since puberty. He had pulmonary tuberculosis in 1992 and had taken full course of anti TB treatment for 6 months following which he developed multiple episodes of pneumonia in 2003 and 2012. He was admitted with the similar complaints to another hospital in December 2015 & was diagnosed as COPD exacerbation. He was managed with IV antibiotics and inhaled bronchodilators and was shifted to our hospital.



On admission, vitals were PR-110/min, BP-110/80 mm Hg, RR-30/min, Spo2-76% on room air and 84% with 1 litre oxygen. ABG was suggestive of type 1 respiratory failure. He received iv antibiotics, nebulised bronchodilators, intermittent NIV support, oxygen and supportive care.

HRCT chest revealed loss of left lung volume with hyperlucency, oligemia and bilateral bronchiectatic changes. Diagnosis of Swyer James made based on HRCT chest findings and history.



Discussion:

Swyer-James or MacLeod syndrome is a post-infectious constrictive bronchiolitis that is usually the sequelae of severe childhood pneumonia. Unilateral transradiancy on plain chest radiography in Swyer–James syndrome reflects a combination of hypoplasia of the pulmonary vasculature and obliterative bronchiolitis. The affected lung is small or normal in volume.
The diagnosis is not difficult as the radiology is unique and easy to recognize. It is however often missed.

Conclusion:

We report this case because it had been missed for many years and most likely the patient had received inappropriate therapies and hope that will not happen henceforth.

Case Report II: Chest Medicine

Breathlessness in a case of Myelofibrosis

Dr. Preethiraj Ballal, MBBS, DNB Trainee - 2nd Year
Dr. Sanjeev Mehta, MD, FCCP
Dr. Abhay Bhave, MD, FRCPA

Overview:

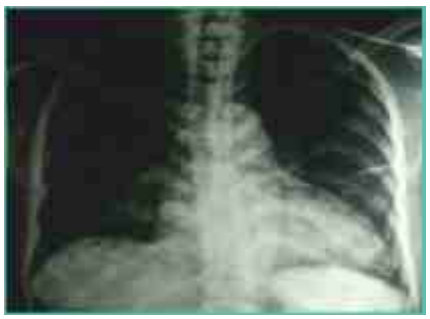
Our patient with haematological malignancy, immune compromised status and severe respiratory distress was a diagnostic and therapeutic challenge. This makes our case extremely special.

Case Report:

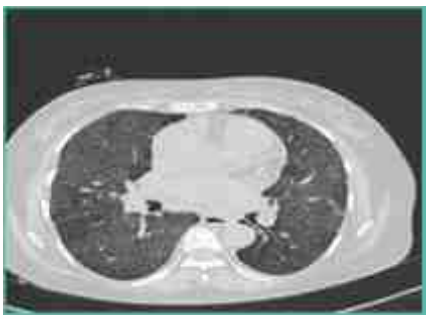
60 years lady under treatment for myelofibrosis and osteomyelosclerosis, presented with dry cough and breathlessness, MRC 3 since 3 days. No fever, expectoration, chest pain or any other symptoms. She had been on prednisolone 10 mg/day, asprin and thalidomide since Nov 11. In 2013 dose of thalidomide was increased and hydroxyurea was added. Examination revealed SpO2 92%, RR24/min, bilateral coarse crepitations and splenomegaly. ABG (room air)–PH-7.42, PO2-59mmhg, PCO2-49mmhg, SPO2-90%. Platelets were 23,000. WBC, CRP, PCT, Blood and Sputum cultures and routine labs all unremarkable. Bronchoscopy and lung biopsy not performed as patient was hypoxic with low platelets.

PROGRESS

Thalidomide was stopped. Clarithromycin, oxygen, NIV, supportive care started. Predinsolone increased to 40 mg/day. Patient is now clinically and radiological normal.



Chest X ray - bilateral reticular infiltrates, more in mid and lower lung zones



HRCT chest showed bilateral diffuse ground glass opacities with relative sparing of peripheral subpleural zone, suggestive of alveolitis.

Conclusion:

In our patient with haematological malignancy, thrombocytopenia & severe respiratory distress, treatment had to be immediate but could not be investigated due to poor health. Diagnostic possibilities were multiple and daunting. This makes our case challenging and special. History and labs did not indicate an infective or malignant process. ABG and radiology suggested an interstitial process, most likely drug induced alveolitis. Thalidomide causes congenital abnormalities, constipation, vertigo, neuropathy and pulmonary embolism. To the best of our knowledge, thalidomide induced alveolitis has not been reported making this a very rare and noteworthy case.

Case Report: General Surgery

Fournier Gangrene - Clinical Case and Review of Literature

Dr. Dattaraj Budkule, MBBS, DNB Trainee (General Surgery)
Dr. Parag Dhumane, DNB (Gen Surgery), MRCSEd, Fellowship - Minimal Access and Robotic Surgery (IRCAD-France)

Fournier gangrene is a rare but life threatening disease involving the perineal, genitourinary and perianal region. We present here our experience in treating one such case and present a brief review of current literature on this disease.

A 44 years old gentleman presented to our casualty with a history of pain in the perineal and perianal area since 6 days, high grade fever with chills since 3 days with gradually increasing swelling and redness in the scrotum since 2 days. He was also detected to have uncontrolled diabetes 6 days back with fasting blood sugar 367 mg/dl and HbA1c of 9.1 (mean plasma glucose 214 mg/dl). On clinical evaluation, he had a toxic look with tachycardia (pulse rate- 106/min), tachypnea (respiratory rate-30/min) and hypotension (blood pressure-86/69 mmHg). Local examination revealed oedematous, erythematous scrotal and perianal skin with marked tenderness. Characteristic crepitus and ill defined black necrotic patches were seen on the scrotum and perianal region (Fig. 1 and 2). Provisional clinical diagnosis of Fournier gangrene was made.

Fig. 1

Fig. 2

The patient was shifted to the intensive care unit and aggressively resuscitated with IV fluids; sugars controlled with insulin infusion, broad spectrum IV antibiotics with gram negative cover (meropenem, clindamycin) were administered. His initial investigations were remarkable with WBC count of 18000/cumm, CRP of 265 mg/dl, and elevated blood lactate of 24 mg/dl.

After initial resuscitation and stabilization, the patient was taken up for emergency surgery under general anaesthesia; extensive debridement was done of involved perineal with denudation of both testes (Fig. 3). Bilateral pararectal spaces were involved with deep pus filled cavities on either side of rectum which were drained and packed. Sterile dressing was done.

The patient's clinical condition improved postoperately; fever subsided in 2 days, tachycardia, tachypnea, hypotension gradually resolved over the next 4 days. Consecutive local treatment consisted of wound irrigation with povidone iodine and hydrogen peroxide solutions, debridement of remaining slough and sterile dressings every alternate day. Appropriate antibiotics according to wound culture sensitivity report (vancomycin, doxycycline) were initiated. To avoid repeated contamination of the large perineal wound with fecal matter and with involvement of bilateral pararectal spaces with possibility of perforation; decision was taken to do diversion colostomy on postoperative day 6 (satisfactory urinary diversion was obtained with silicon Foleys catheter) and discharged after 2 weeks.

These regular dressings resulted in clean wound with healthy granulation tissue with significant contraction (healing by secondary intention) within 1 month. Secondary suturing with covering of both denuded testes was thus performed in the second admission. The perianal cavities were allowed to heal by secondary intention by doing regular dressings.

All the wounds healed over next 10 weeks; following which the diversion colostomy was reversed in the third admission. The patient thus was successfully cured without any obvious residual morbidity.



Review of Literature:

Fournier gangrene was first identified in 1883 by the French venereologist Jean Alfred Fournier in a series of 5 previously healthy young men. Fournier gangrene is a rare but life threatening polymicrobial necrotizing fasciitis of the perineal, genitourinary and perianal region. The reported mortality rates for Fournier gangrene have varied widely, ranging from 10% to as high as 75%. It involves the superficial and deep fascial planes (usually sparing the deep muscular structures and testis) which can extend above up to the chest wall. Risk factors include impaired immunity such as patients with diabetes, alcoholism, morbid obesity, cirrhosis, extremes of age, malignancy; long term steroid treatment, HIV infection, urogenital trauma, infection, abscesses and poor local hygiene. Localised infection causes thrombosis of small subcutaneous vessels thus jeopardising the blood supply causing tissue necrosis. This creates a favourable environment for anaerobes which releases collagenase, heparinase etc thus dissolving the tissue planes and

causing fast spreading, extensive necrosis. Diagnosis is mainly clinical, features of which include intense pain, tenderness, swelling in the genitalia; discolouration of the overlying skin, purulent discharge, fever etc. Investigations (MRI) can be done to see the extent of disease, but mostly; the first surgery establishes the diagnosis and extent of Fournier's Gangrene. Gold standard treatment includes aggressive resuscitation; early extensive surgical debridement under a broad spectrum antibiotic cover followed by regular antiseptic dressings. Diversions urostomy, colostomy can be considered in cases of significant contamination. Wound thus is allowed to heal by secondary intension or is covered by skin grafts or flaps.

Many scoring systems have been utilized to prognosticate outcomes of these patients, prominent among them are - FGSI (Fournier Gangrene Severity Index), updated FGSI and LRINEC (Laboratory Risk Indicators for NECrotizing Fascitis). Factors associated with high mortality include an anorectal source, advanced age, extensive disease (involving abdominal wall or thighs), shock or sepsis at presentation, renal failure and hepatic dysfunction.

Thus, a multidisciplinary team comprising of surgeon, intensivist, diabetologist, urologist etc. are required for optimal treatment of this entity. Keeping high index of suspicion for making an early diagnosis and prompt treatment at a tertiary care hospital will help reduce morbidity and mortality associated with this potentially fatal condition.

SPENCDI

Dr. Priyanka Patel, MBBS, DNB Trainee (Pediatrics)
Dr. Swati Kanakia, MD, DCH, PhD (Paediatric Haematology)
Dr. KN Shah, FRCP (Edin), MRCP (Lon), MRCP (Edin) DCH, D.Ped (Paediatric Neurology)
Dr. Ravindra Chittal, MD, DCH

Background:

Spondyloenchondrodysplasia with Immune Dysregulation (SPENCDI) is an immunoosseous dysplasia combining the typical metaphyseal and vertebral bone lesions of spondyloenchondrodysplasia (SPENCD) with immune dysfunction and neurologic involvement. It is caused by mutations in ACP 5 gene and is inherited in an autosomal recessive manner. The signs and symptoms of SPENCDI can become apparent anytime from infancy to adolescence.

Salient features of SPENCDI:

- Skeletal involvement: platyspondyly, metaphysial dysplasia, short stature, rhizomelic micromelia, increased lumbar lordosis, barrel chest, facial anomalies and clumsy movements.
- Immune dysfunction: autoimmune reaction, decrease in blood cells lines, hypothyroidism or chronic inflammatory disorders such as systemic lupus erythematosus or rheumatoid arthritis, frequent fevers and recurrent respiratory infections.
- Neurological involvement: spasticity, intellectual disability and cerebral calcifications.

Case Report:

Four year old female child, first by birth order born of non consanguinous marriage with uneventful birth history presented to Lilavati Hospital with complaints of purpura all over body since 2 months, bleeding from gums and lips since 10-15 days and history of delayed milestones. Patient had significant past history of multiple admissions since 1 year of age for fever, convulsion and bleeding from gums and lips with anemia and thrombocytopenia for which she received multiple PRBC and platelet transfusions. CT brain done at 1 year of age was suggestive of multifocal hemorrhagic areas in the cerebral parenchyma and cerebellum. Child also received Intravenous Immunoglobulin, dapsone and steroids. L-thyroxine was started for hypothyroidism, which was later stopped. On examination patient had pallor, purpura all over the body and facial dysmorphism. On investigation CBC showed bicytopenia: Hb - 7.3 gm% and platelet count of 6000 with retic count of 4.69% and peripheral smear showed anisocytosis, occasional polychromasia, tear drop cells, pencil cells, target cells, schistocytes, lymphocytic dominance, platelets were markedly reduced. Patient's renal and liver function test were within normal limits. In view of thrombocytopenia child received Intravenous Immunoglobulin on first day of admission and started on prednisolone and also received platelet transfusion. However PRBC transfusion was withheld in view of ICT and DCT strongly positive. Child developed generalized tonic clonic convulsion on 2nd day of admission and was started on levera. CT brain showed symmetrical bilateral basal ganglion calcifications and gliotic area in left Parieto-Temporal area. EEG showed epileptiform activity over right frontotemporal region without secondary generalisation showing asymmetry between two hemispheres. Bone marrow aspiration showed micronormoblastic maturation in the erythroid cells and megakaryocytes were present, otherwise unremarkable. Bone marrow was suggestive of hypercellular marrow with erythroid and megakaryocytic hyperplasia, increased bone marrow fibrosis. TORCH titre sent in view of developmental delay and basal ganglia calcification was negative. X ray wrist showed rachitic changes. X ray Spine, elbow and knee were normal. Patient was started on cyclosporin as there was no significant improvement in platelet count and prednisolone was stopped. Syndromic association was suspected due to multisystem involvement with dysmorphic features. The features were consistent with Spondyloenchondrodysplasia with Immune dysregulation. Hence, genetic studies for ACP 5 gene mutation on chromosome 19 were sent. Patient was positive for homozygous nucleotide deletion c.136.136delc (p. R46Gts*24) in exon 1, which was a novel and pathological variant. The presence of this mutation was consistent with the diagnosis of Spondyloenchondrodysplasia with Immune dysregulation. The parents too were heterozygous for the same gene. Genetic counseling and possibility of antenatal diagnosis was offered to the parents.

Conclusion:

This case highlights how basic bedside clinical examination skills along with the recent advances of medicine - genetic studies lead to the diagnosis of a rare disease.

Fun Time

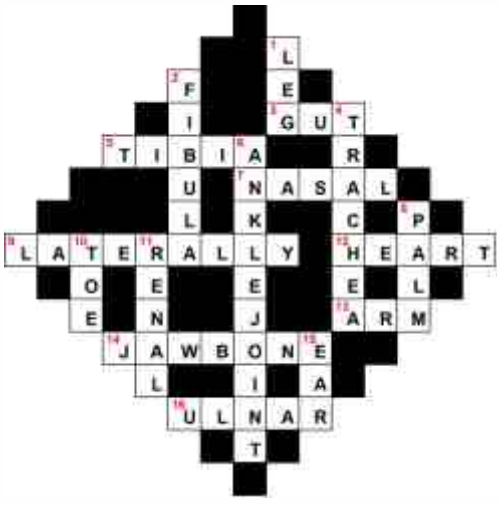
Identify the correct option for which the below prefixes are used

E.g. **Hyper:** Excessive, above normal

1	**Hepato**	a. Heart	b. Liver	c. Muscles	d. Brain
2	**Inter**	a. Two	b. After, behind	c. Before	d. Between
3	**Brady**	a. Fast	b. Slow	c. Painful	d. Same
4	**Peri**	a. Around	b. After	c. Before	d. Above
5	**Bi**	a. Behind	b. Near	c. Two	d. Half

Kindly email us your answers on medicaltimes@lilavatihospital.com

Answer to previous quiz



Straight from the Heart - Patient Testimonials

At Lilavati Hospital every patient has the perfect atmosphere to help gain the road to recovery

I thank the Nursing staff from bottom of my heart because they are really there for you day & night for your help.
With a very sweet smile they take care.
"THANK YOU SISTERS"

Totally loved the services given to me. Time taken for each test was also not too much. Very efficient staff. You guys are doing a fabulous job. I just loved the services. Keep up the great job.
A big thank you to all !

Lilavati Hospitals hospitality, care and cleanliness everything has touched us. Great Hospital !! Thanks a lot!
You people were awesome.
I felt like being treated at home with utmost care. Your Nursing staff is doing a commendable job...

Very well managed...
overall staff were helpful, courteous and aware of the responsibilities...
Excellent front desk support..
Thank you!

The interaction of the staff was excellent. All were helpful and paid attention to all health checkup guests.

Overall I had a very good experience of Lilavati Hospital. What I like the most about this hospital is the services, support and cooperation from the staff & doctors.

Educational Activities

Our doctors share their intellectual capital and expertise with others through CMEs using means like workshops, seminars, conferences, live telecast of procedures and surgeries, which they are performing. Our hospital is accredited by Maharashtra Medical Council for conducting CMEs.

Sr. No.	Topic	Organized Month
1	Molecular Imaging in Infection & Inflammation	September
2	Pleural Diseases	October
3	Pain Management An Overview	November
4	Current Trends in Paediatrics Part III	December 2016
5	Ring out the old ring in the new-NOACS	December, 2016
6	Infectious Diseases	January, 2017
7	Pulmonary-Renal Symposium	February, 2017

Pulmonary-Renal Symposium

Infectious Diseases

Ring out the old ring in the new-NOACS

Services Available

MEDICAL

Anesthesiology
Audiology and Speech Therapy
Cardiology
Chest Medicine
Chronic Pain Management
Dental
Dermo Cosmetology
Diabetology & Endocrinology
Gastroenterology
Haematology
Hair Transplant
Head and Migraine Clinic
Internal Medicine
Infectious Diseases
Medical Oncology
Nephrology
Neurology
Psychiatry / Psychology / Neuropsychology
Physiotherapy
Pediatrics
Rheumatology
Sleep Medicine

SURGICAL

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

CRITICAL CARE

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

DIAGNOSTICS

Imaging Services
BMD
CT
Interventional Radiology
MRI
Mammography
Nuclear Medicine
PET & SPECT CT Scan
Sonography
Urodynamics
X-ray

LABORATORY SERVICES

Blood Bank
Histopathology
Microbiology
Pathology

24 HRS SERVICES

Ambulance
Emergency
Pharmacy
Roshni Eye Bank

Feathers In Cap

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

- Our hospital received "Trusted Hospital 2016" award from Reader's Digest.
- All India Critical Care Hospital Ranking Survey 2016 conducted by Optimal Media Solutions - a division of Times Internet Limited (A Times Group Company) in association with i3 Research Consultants, New Delhi ranked Lilavati Hospital and Research Centre No. 1 in Mumbai and Western Region for Paediatrics and Gynecology & Obstetrics .
- THE WEEK-NIELSEN survey for rating the best hospitals in the country has yet again adjudged Lilavati Hospital amongst the best hospital ranking 8th in the country. Eleven other specialties of our hospital are also ranked amongst the Top 15.
- Dr. Sanjay Desai, Orthopaedic Surgeon is conferred the "GIANTS INTERNATIONAL" award for Medicine - 2016.
- Dr. Shahid Merchant, Consultant - Cardiology was awarded the prestigious Fellowship of "The European Society of Cardiology."
- Dr. Parag Dhumane Consultant - General Surgery has co-authored a chapter in the first edition of a book - "Metabolism and Pathophysiology of Bariatric surgery – Nutrition, Procedures, Outcomes and Adverse Effects" published by Academic Press, UK, in 2017.

OTHER SPECIALITIES

Gynaecology	-	**Ranked 3rd in India**
Diabetic Care	-	**Ranked 7th in India**
Opthalmology	-	**Ranked 7th in India**
Gastroenterology	-	**Ranked 9th in India**
Research Facilities	-	**Ranked 9th in India**
Neurology	-	**Ranked 10th in India**
Cardiology	-	**Ranked 10th in India**
Pulmonology	-	**Ranked 10th in India**
Orthopaedics	-	**Ranked 11th in India**
Oncology	-	**Ranked 11th in India**
Paediatrics	-	**Ranked 14th in India**

Doctors Associated with Lilavati Hospital

Andrology
Dr. Shah Rupin S.

Anaesthesiology
Dr. Baxi Vaibhavi
Dr. Budhakar Shashank
Dr. Gandhi Nisha
Dr. Gaiwal Sucheta
Dr. Gawankar Prakash
Dr. Kharwadkar Madhuri
Dr. Khatri Bhimsen
Dr. Kulkarni Satish K.
Dr. Mahajan Anjula
Dr. Mascarenhas Oswald
Dr. Pawar Leena
Dr. Patil Prajakta
Dr. Shah Falguni
Dr. Waradkar Samidha

Audiology & Speech Therapy
Mr. Bhan Satyan
Ms. Gorawara Pooja
Ms. Gulvady Shruti
Ms. Parulkar Bakul
Mr. Patadia Rajesh

Cardiovascular & Thoracic Surgery
Dr. Bhattacharya S.
Dr. Honnekeri Sandeep T.
Dr. Jaiswal O. H.
Dr. Joshi Suresh
Dr. Kaushal Pandey
Dr. Kumar Pavan
Dr. Mehra Arun P.
Dr. Nand Kumar
Dr. Rachmale G. N.
Dr. Ravishankar V.
Dr. Vichare Sanjeev

Cardiology
Dr. Ballani Prakash H.
Dr. Bang Vijay
Dr. Choksi Nishit
Dr. Dargad Ramesh R.
Dr. Gokhale Nitin S.
Dr. Jhala Darshan
Dr. Kothari Snehal N.
Dr. Lokhandwala Yash
Dr. Mehan Vivek
Dr. Merchant S. A.
Dr. Menon Ajit R.
Dr. Mehta Haresh G.
Dr. Nabar Ashish
Dr. Pillai M G
Dr. Pinto Robin
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. Vajifdar Bhavesh

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

Colorectal Surgery
Dr. Chulani H. L.

Cosmetic Surgery
Dr. Doshi Milan

Dentistry / Dental Surgery
Dr. Bhavsar Jaydeep P.
Dr. Deshpande Dilip
Dr. Gala Dhimant
Dr. Joshi P. D.
Dr. Khatavkar Arun
Dr. Kamdar Rajesh J.
Dr. Nayak Arun
Dr. Parulkar Darshan
Dr. Sanghvi Sameer

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

Diabetology
Dr. Panikar Vijay

Diabetology & Endocrinology
Dr. Joshi Shashank R.

ENT Surgery
Dr. D'souza Chris E.
Dr. Katna Rakesh
Dr. Parasram Kamal S.
Dr. Pusalkar A.

Endo Urology
Dr. Utture Anand

Gastro Intestinal Surgery
Dr. Bharucha Manoj
Dr. Goyal Neerav
Dr. Gupta Subash
Dr. Kulkarni D. R.
Dr. Mehta Hitesh
Dr. Shah Ankur
Dr. Varty Paresh
Dr. Wagle Prasad K.
Dr. Zaveri Jayesh P.

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

Gastroenterology and Hepatology
Dr. Shah Jayshri

General Surgery
Dr. Dhumane Parag
Dr. Garud T. V.
Dr. Mehta Narendra
Dr. Shastri Satyanand B.
Dr. Shetty Sadanand V.

Gynaecology
Dr. Agarwal Rekha
Dr. Coelho Kiran S.
Dr. Dhanu Vilas R.
Dr. Goyal Swarna
Dr. Nanavati Murari S.
Dr. Pai Hrishikesh
Dr. Pai Rishma D.
Dr. Palshetkar Nandita
Dr. Salunke Vivek
Dr. Shah Cherry C.

Haematology
Dr. Agarwal M. B.
Dr. Bhave Abhay

Headache & Migraine
Dr. Ravishankar K.

Healthcheckup Consultant
Dr. Desai Sandeep

Infectious Diseases Consultant
Dr. Nagvekar Vasant C.

Intensivist / Physician
Dr. Sheikh Minhaj
Dr. Shekade Kiran
Dr. Shrinivasan R.
Dr. Vas Conrad Rui

Interventional Radiology
Dr. Limaye Uday S.
Dr. Sheth Rahul
Dr. Warawdekar Girish

Joint Replacement Surgery
Dr. Maniar Rajesh N.

Lactation Consultants
Dr. Joshi Mugdha
Ms. Temkar Swati

Nephrology
Dr. Mehta Hemant J.
Dr. Shah Arun
Dr. Suratkal L. H.
Dr. Upadhyaya Kirti L.

Neurology
Dr. Chauhan Vinay
Dr. D'souza Cheryl
Dr. Sirsat Ashok M.
Dr. Vyas Ajay

Neuropsycology
Dr. Panjwani Siddika

Neuro Surgery
Dr. Dange Nitin
Dr. Goel Atul
Dr. Ramani P. S.

Nuclear Medicine
Dr. Krishna B. A.
Dr. Shimpi Mahajan Madhuri

Oncology
Dr. R. Gopal
Dr. Smruti B. K.

Oncosurgery
Dr. Chabra Deepak
Dr. Deshpande Ramakant K.
Dr. Jagannath P.
Dr. Parikh Deepak
Dr. Sharma Sanjay
Dr. Shah Rajiv C.

Ophthalmology
Dr. Agrawal Vinay
Dr. D'souza Ryan
Dr. Mehta Salil
Dr. Mehta Himanshu
Dr. Nadkarni Shivram
Dr. Nagvekar Sandip S.
Dr. Parikh Rajul
Dr. Shah Manish
Dr. Shah Sushmita
Dr. Shah Gaurav
Dr. Vaidya Ashish R.

Orthopaedic Surgery
Dr. Agrawal Vinod
Dr. Archik Shreedhar
Dr. D'silva Domnic F.
Dr. Desai Sanjay S.
Dr. Deshmukh Niranjan
Dr. Garude Sanjay
Dr. Joshi Anant
Dr. Kohli Amit
Dr. Mukhi Shyam R.
Dr. Nadkarni Dilip
Dr. Padgaonkar Milind
Dr. Panjwani Jawahar S.
Dr. Thakkar C. J.
Dr. Vatchha Sharookh P.
Dr. Vengsarkar Nirad
Dr. Warrier Sudhir

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

Paediatric Surgery
Dr. Karmarkar Santosh J.
Dr. Nathani Rajesh
Dr. Redkar Rajeev G.

Paediatrics
Dr. Ali Uma
Dr. Avasthi Bhupendra
Dr. Chittal Ravindra
Dr. Gupta Priyam
Dr. Lokeshwar M. R.
Dr. Sharma Shobha
Dr. Ugra Deepak

Paediatric Cardiology
Dr. Changlani Deepak K.

Paediatric Haematology / Oncology
Dr. Kanakia Swati R.

Paediatric Neurosurgery
Dr. Andar Uday

Paediatric Neurology
Dr. Kulkarni Shilpa
Dr. Shah Krishnakumar N.

Paediatric Opthalmology
Dr. Doshi Ashish

Pain Management
Dr. Baheti Dwarkadas
Dr. Jain Jitendra

Physicians / Internal Medicine
Dr. Ballani A. G.
Dr. Bandukwala S. M.
Dr. Dalvi Sunil G.
Dr. Gidwani Vinod N.
Dr. Jadwani J. P.
Dr. Medhekar Tushar P.
Dr. Medhekar Amey T.
Dr. Nair C. C.
Dr. Shimpi Shrikant

Plastic Surgery
Dr. Gajiwala Kalpesh
Dr. Kumta Samir
Dr. Prakash Siddharth
Dr. Purohit Shrirang

Psychiatry
Dr. Deshmukh D. K.
Dr. Shah Bharat R.
Dr. Vahia Vihang N.

Psychology
Dr. Chulani Varkha

Physician / Rheumatology
Dr. Sangha Milan

Physiotherapy
Ms. Garude Heena

Radiology & Imaging
Dr. Deshmukh Manoj
Dr. Doshi Pankaj
Dr. Kamath Satish
Dr. Manmohan Madan
Dr. Mehta Mona
Dr. Handa Nayha

Rheumatology
Dr. Gill Niharika

Spine Surgery
Dr. Bhojraj Shekhar
Dr. Nene Abhay

Urology
Dr. Pathak Hemant R.
Dr. Raina Shailesh
Dr. Raja Dilip
Dr. Sanghvi Nayan
Dr. Shah Sharad R.
Dr. Vaze Ajit M.

Urological Laparoscopy Surgery
Dr. Ramani Anup

Urodynamic Consultant
Dr. Dastur B.K

Vascular Surgery
Dr. Patel Pankaj
Dr. Pai Paresh

Lilavati Hospital

introduces

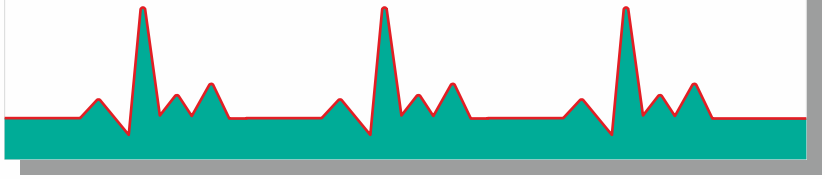
HEART Failure Clinic

Offering Customized Patient Care

For all patients with **Heart Failure**
with low or normal ejection fraction

For details contact:
022-26568354/8355

Lilavati Hospital and Research Centre
More than Healthcare, Human Care



IMPORTANT TELEPHONE NUMBERS

EMERGENCY / CASUALTY : 2656 8063 / 2656 8064

Ambulance	:	97692 50010 / 75063 58779
Hospital Board Line	:	2675 1000 / 2656 8000
Hospital Fax	:	2640 7655 / 2640 5119
Admission Department	:	2656 8080 / 2656 8081
TPA Cell	:	2656 8089
Appointment-OPD	:	2656 8050 / 2656 8051
Billing-Inpatient Dept	:	2675 1586 / 2675 1585
Billing-OPD Dept	:	2656 8052
Blood Bank Dept	:	2656 8214 / 2656 8215
Health Check-up Dept	:	2656 8354 / 2656 8355
Report Dispatch Counter	:	2675 1620
MRI Dept	:	2656 8066
X-Ray, Sonography Dept	:	2656 8031
CT Scan Dept	:	2656 8044 / 2656 8045
Nuclear Medicine Dept	:	2656 8092
Physiotherapy Dept	:	2675 1536

Lilavati Hospital and Research Centre

More than Healthcare, Human Care

NABH Accredited Healthcare Provider

A-791, Bandra Reclamation, Bandra (W), Mumbai - 400 050.
Tel.: +9122-2656 8000, +9122-2675 1000 • **Fax.:** +9122-2640 7655
Email: lilaweb@lilavatihospital.com • **Website:** www.lilavatihospital.com