LILAVATI HOSPITAL

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LIVER TRANSPLANT CLINIC

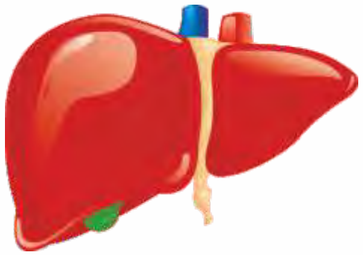
Dr. Naimish N. Mehta

European Diploma in Liver Transplantation, Fellowship in Liver Transplantation (UK)

Renowned Liver Transplant Surgeon

will be conducting the clinic

HIGHLIGHTS OF THE CLINIC



- Transplant Team's Cumulative Experience of Over 2000 Liver Transplants
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- Dedicated Liver Intensive Care Unit (LICU)
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- Backed by Experienced & Well Trained Team
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For appointments & details contact

Coordinator Liver Transplant Clinic:

Dr. P. V. Battalwar

Call: +91 9930359546 / 022-26568387 / 022-26568000

Email: drpvbattalwar@lilavatihospital.com

Lilavati Hospital and Research Centre

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Contents

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Editorial

At the onset I would like to thank each one of you for the immense support extended for previous editions of Lilavati Hospital Medical Times (LHMT). With your participation it gives me immense pleasure to present yet another informative issue of LHMT.

We all might agree that the level of 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 Cardiovascular and Thoracic Surgery, Chest Medicine 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
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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.

Lilavati Hospital Today

PICU / NICU

The NICU at Lilavati hospital offer treatment to premature neonates (born before 37 weeks of pregnancy) have low birth weight or have a medical /surgical condition that requires special care. With the established IVF programme in place along with highly recognized IVF consultants and obstetricians; the NICU team comprises of round the clock neonatologist Dr. Sheikh Minhaj Ahmed & Dr. Manish Arya, experienced nurses with 1:1 nurse to patient ratio, respiratory therapists, lactation consultant and dieticians under the direct supervision of senior consultants. The services provided are conventional invasive/non-invasive ventilatory care, surfactant administration, total parenteral nutrition, photo therapy, exchange transfusion, ROP screening and treatment, hearing assessment, screening for congenital heart disease and other essential services required for NICU care. The NICU services rendered are open to both Lilavati hospital in born as well as out born neonates.

Families are important to us and are encouraged to participate as a member of the team in the care of their neonate while in our unit. Our staff works in partnership with families to provide the best care possible for their baby.

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)

FOOT AND ANKLE CLINIC

Overview

Lilavati Hospital & Research Centre introduces comprehensive foot and ankle services. Foot and Ankle problems are often neglected, not correctly diagnosed and hence not correctly treated. Foot and ankle are complex organs which needs in depth understanding of its mechanics and function to achieve optimum results.

Most foot and ankle pathologies once correctly diagnosed can be easily treated with exercises (physiotherapy), correction of footwear (insoles - orthotic), local injections and very few times surgery.

ST2 MARKER TEST

Lilavati Hospital is pleased to start ST2 marker test.The ST2 cardiac biomarker is a protein biomarker of Cardiac stress encoded by the IL1RL1 gene. The benefits of this test are listed below:

- ST2 signals the presence and severity of adverse cardiac remodeling and tissue fibrosis, which occurs in response to myocardial infarction, acute coronary syndrome, or worsening heart failure.
- ST2 provides prognostic information that is independent of other cardiac biomarkers such as BNP, NT-proBNP, highly sensitive troponin.
- ST2 has considerable prognostic value and is used as an aid for risk stratification in identifying patients who are at high risk of mortality and rehospitalization in patients diagnosed with heart failure.
- ST2 is independent of natriuretic peptides, such as natriuretic peptide BNP and NT-proBNP, and therefore provide unique and complementary prognostic information.
- ST2 is also not adversely influenced by age, impaired renal function or elevated body mass index (BMI), common confounding situations for natriuretic peptide measurements
- Repeated measurements of ST2 may aid in clinical decision-making.
- ST2 is measured by an immunoassay, now established at Pathology laboratory of Lilavati Hospital and Research Centre

Iron Deficiency Anemia – What Is New

Dr. Swati Kanakia, MD, DCH, PhD

Iron Deficiency Anemia (IDA) has been prevalent since ages. Despite advances in modern medicine, it is still a significant problem especially in the developing countries. It is widespread yet the most neglected micronutrient deficiency disorder among children. We are all aware of the basics of IDA. This article focuses only on the new developments in IDA.

Definition – What Is New

The WHO defines iron deficiency state as a condition in which there are no iron stores to mobilize and in which signs of a compromised supply of iron to tissues including the erythron are noted. The more severe stages of iron deficiency are associated with Anemia. Iron deficiency Anemia is considered to be present when iron-deficient erythropoiesis leads to hemoglobin levels below two standard deviations (-2SD) of the distribution mean for hemoglobin in an otherwise normal population of the same gender and age who are living at the same altitude.

Iron deficiency is sometimes defined by serum ferritin levels provided there are no other causes that affect ferritin levels especially inflammation (Table 1).[1]

Table 1. Relative extent of iron stores on the basis of serum ferritin concentration

	Serum ferritin (µg/L)	
	Less than 5 years of age	5 years of age or older
Depleted iron stores	< 12	< 15
Depleted iron stores in the presence of infection	< 30	-

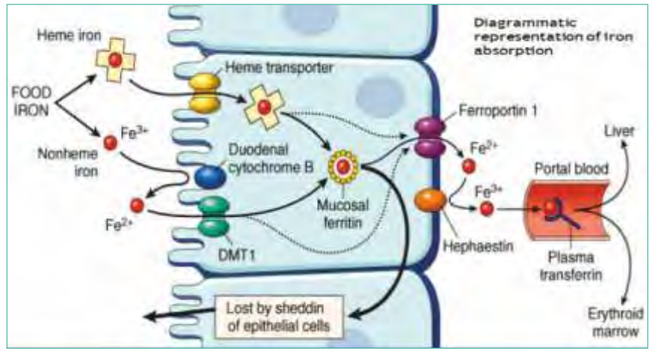
Statistics – What Is New

The prevalence of Anemia due to all causes in young children (< 5 years) continues to remain over 70% in most parts of India according to the National Family Health Survey (NFHS) III despite a policy being in place and a program that has been initiated for a long time. In children below 3 years of age there is a slight decrease in the prevalence of severe Anemia but it jumps to 79% in overall Anemia and this is 5% more than the NFHS II survey done six years prior to the NFHS III survey.[2]

Table 2. Comparison of overall Anemia prevalence (%) among children of age 6-35 months

Anemia level	NFHS III			NFHS II		
	Urban	Rural	Total	Urban	Rural	Total
Mild (10.0 – 10.9 g/dL)	25.8	25.7	25.7	23.7	22.7	22.9
Moderate (7.0 – 9.9 g/dL)	42.0	51.7	49.4	42.0	47.1	45.9
Severe (< 7.0 g/dL)	4.4	3.5	3.7	5.1	5.5	5.4
Any Anemia (< 11.0 g/dL)	72.2	80.9	78.9	70.8	75.3	74.3

Pathophysiology – What Is New



Iron is present in the food as heme and non-heme iron. Heme transporter brings heme iron into the epithelial cell of duodenum. Iron is transferred to mucosal ferritin or transported into plasma via ferroportin 1.Non-heme iron is converted from Fe3+ form to Fe2+ form via reductase which is Vit. C dependent. Fe2+ is taken up by DMT1 (divalent metal transporter 1) into the epithelial cell.
Once inside the cell it binds to mucosal ferritin to either be stored or be transported to plasma via ferroportin 1 (activity inhibited by hepcidin). Once in plasma, it is immediately oxidized from Fe2+ to Fe3+ by hephaestin. Plasma transferrin takes Fe3+ to the liver and bone marrow.

Hepcidin, a liver-derived peptide hormone, is a key regulator of systemic iron homeostasis. Hepcidin prevents the absorption of iron into plasma at different levels. The blocking of iron flows is achieved by hepcidin causing degradation of ferroportin.[3] Because hepcidin directly controls iron absorption, serum hormone levels have the potential to predict poor responsiveness to oral iron and eliminating delays before switching to IV iron. Hepcidin levels may be helpful in distinguishing between IDA and Anemia of chronic infection (ACD). Patients with inflammatory disorders and concomitant iron deficiency typically have lower hepcidin levels as compared with those with "pure" ACD. However, the development of assays to quantify hepcidin in biological samples has proved challenging.

Clinical Features – Is There Anything New?

Iron deficiency adversely affects

- Cognitive performance, social-emotional behavior and physical growth of infants, preschool and school-aged children
- Immune status and morbidity from infections of all age groups
- Use of energy sources by muscles and thus the physical capacity and work performance of adolescents

Iron deficiency also

- Alters the production of triiodothyronine (T3) and thyroid function in general and the production and metabolism of catecholamines and other neurotransmitters resulting in impaired temperature response to a cold environment
- Increases risk of heavy-metal poisoning

Diagnosis – What Is New

The diagnosis of iron deficiency Anemia (IDA) is based on hemoglobin, hematocrit, RBC morphology, serum iron, serum ferritin, total iron binding capacity (TIBC) and transferrin saturation. However, these hematological and chemical tests are not accurate as there are other factors that affect them.

Red cell distribution width (RDW) on blood count is increased in nutritional deficiency. If reduced MCV is also present, iron deficiency is considered and if MCV is increased, vitamin B12 or folic acid deficiency may be present. A normal RDW value and microcytosis suggest thalassemia carrier state rather than IDA.

Some new tests developed for definite diagnosis of IDA include:

- Zinc protoporphyrin (ZnPP) – is increased in IDA as it is produced with substitution of zinc instead of iron when iron is absent.
- Free erythrocyte protoporphyrin – is a precursor of heme and is increased when the iron supply is inadequate for heme production. However, it is also increased in infection or inflammation, lead poisoning and hemolytic Anemia.
- Serum soluble transferrin receptor (sTfR) – is a sensitive response during the early development of iron deficiency. Serum transferrin receptor levels increase progressively as the supply of iron to the tissues becomes progressively more deficient. A major advantage is that sTfR is not significantly affected by infection or inflammatory processes and it does not vary with age, gender or pregnancy. However, sTfR levels may be elevated when there is increased red cell production, turnover or both, such as in the case of hemolytic Anemia.
- Reticulocyte hemoglobin (CHr) – may provide a reliable measure of early iron deficient erythropoiesis. A CHr cut-off value of 29 pg predicts IDA.[4]

Treatment – What Is New

Iron in different forms has been used since time immemorial as the treatment of IDA. Oral salts are the most commonly used forms of iron. Treatment with IV iron is emerging as an attractive option for treating IDA in childhood. Modern IV iron formulations are safe and effective alternatives for IDA treatment. The newer IV iron formulations require no test dose or pre-medication and are given as an infusion.

History

The first IV iron introduced was ferric hydroxide in 1932 but due to severe toxic reactions its use was restricted to extraordinary circumstances only. Then other formulations were developed and introduced for use as follows:

1954 – high-molecular-weight iron dextran
1991 – low-molecular-weight iron dextran
1999 – ferric gluconate
2000 – iron sucrose
2009 – ferumoxytol, iron isomaltoside, ferric carboxymaltose

Indications

The main clinical indications for IV iron treatment are:

- Upper GI toxicity
- Concomitant blood loss
- Poor compliance to oral iron
- Anemia of chronic inflammation, chronic kidney disease, inflammatory bowel disease, rheumatoid arthritis, cancer
- Anemia associated with
  - CCF
  - Pregnancy
  - Gluten induced enteropathy
- Autologous blood donation before elective surgery

Dose Calculation

The total dose to be give is calculated by the Ganzoni equation:

Total Iron Deficit = Weight {kg} x (Target Hb – Actual Hb) {g/l} x 2.4 + Iron stores {mg}*
*{500mg if weight > 35kg}
{15 mg/kg if weight < 35kg}
{Recommended value: 500mg}

Conclusion

IDA is still a major health concern with prevalence being same over the years despite advances in medicine and a program in place by the government. IDA in infancy causes neurodevelopmental problems later in childhood. This makes it more necessary to arrive a diagnosis early and treat IDA promptly. A new promising tool for diagnosis is hepcidin. Oral iron therapy is an inexpensive and effective way of treating IDA but is less than ideal because of the high gastrointestinal adverse events rate. Oral iron as the first-line therapy should be reconsidered as the new IV iron formulations are highly effective and safe.

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Case Report: Cardiovascular and Thoracic Surgery

Heart Surgery for PRIMARY CARDIAC TUMOR LEFT ATRIAL MYXOMA

Dr. Pavan Kumar, M.S, M.Ch.
Dr. Vidya Suratkal, MD, DM
Dr. Leena Pawar, MD

Case Report

Mrs. L. N. 57 years old foreign National from MOZAMBIQUE came to Lilavati hospital for general body check up for her mildly swollen right leg & mild off & on fever. Her total body check up revealed no abnormalities except the cardiac Echo which showed 3.5 x 3.5 cm globular mass in left atrium attached to inter-atrial septum in an otherwise normal cardiac parameters. For differentiation a Cardiac MRI was done which suggested that this mass could be Myxoma like tumor rather than clot.

In view of these findings, the patient was advised urgent open heart surgery for removal of this tumor from left atrium chamber of heart. Open heart surgery was carried out on 19/05/2017. Tumor was removed through Trans-atrial approach from right atrium. Tumor was 3.5 x 4.5 cm globular hard mass attach to left atrial side of interatrial septum with broad base which was also removed. Atrial Septal reconstruction was done using Dacron Patch & heart surgery was completed successfully.

Tumor was sent for histopathology which confirmed the diagnosis of MYXOMA TUMOR of heart. Patient recovered completely & was discharged from Hospital after 6 days.

Discussion

Primary Tumors of heart are rare with prevalence of 0.001 to 0.03 % in various autopsy series. About 75% of all cardiac tumors are benign & tumors like Myxoma constitute half of them. Myxomas have annual incidence of 0.5 / million population presenting in 30- 60 year age group. 65% occur in female & 4.5 – 10% are familial. Recent immune histochemical studies & genetic expression have shows that Myxoma is a neoplasm with Tumor cells arising from Multipotent mesenchymal cells with ability of recurrence at multiple sites & run in families. Clinically patient have variety of nonspecific findings depending on size, location & mobility of Myxoma. Majority patients present with obstructive cardiac, embolic & constitutional / systemic signs. Cardiac obstructive symptoms include congestive heart failure due to mitral valve obstruction or damage. Constitutional symptoms are due to IL-6 interleukin release from Tumor causing fever arthcalgia, weight loss, Reynaud phenomenon & muscle weakness. Few patients may show atrial arrhythmia & electrical conduction disturbances.

In investigations 3D Echo cardiography and TEE are used highly as diagnostic tests for these cardiac Tumors. Cardiac MRI can differentiate between a clot or myxomatous mass very well.

80% of cardiac Myxoma occur in left atrium, 12% - 15% in Right atrium, 1.3 % are biatrial & 1.7 % in Right Ventricle & rarely in left ventricle. Myxoma are pedunculated tumors with fibro muscular stalk attaching to sub endothelial base usually at fossa ovalis on IAS. These tumors have gelatinous appearance with foci of haemorrhage & calcification / cystic changes seen on histopathology which also shows uniform spindle / stellate - shape cells in extensive Myxoid stroma.

Treatment for cardiac Myxoma tumors is prompt surgical resection by open heart surgery complete excision is the goal to avoid recurrence which occurs in 3% cases. Long term follow up & family screening for these tumors is highly recommended.

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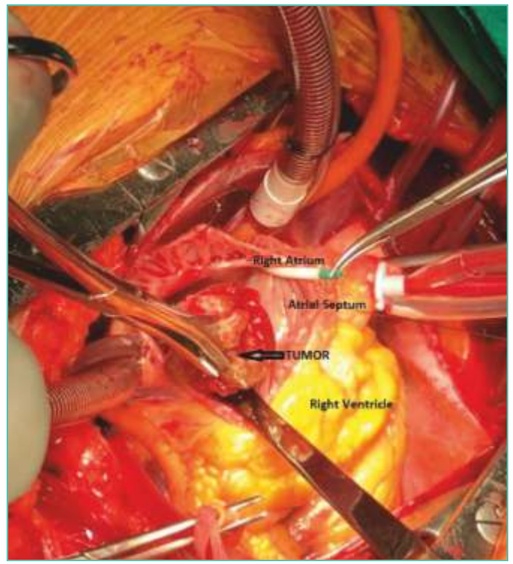
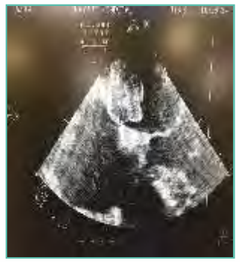
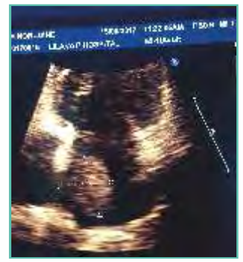
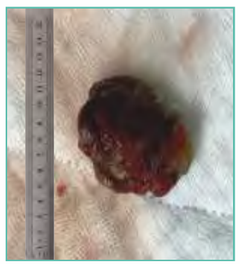
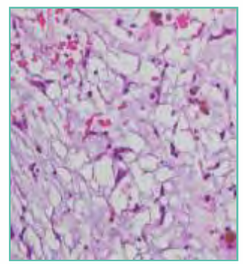


Procedure


Echocardiography


Echocardiography


Tumor


Stellete cells by myxomatous background

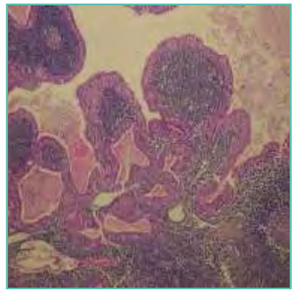
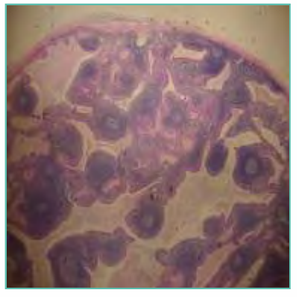
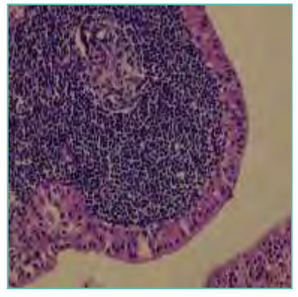
Case Report I : Chest Medicine

A Rare Case of Cervical Swelling

Dr. P. Saitheja Reddy, MBBS, DNB Trainee - 3rd Year
Dr. Sanjeev Mehta, MD, FCCP

Introduction
A neck mass is common but extremely challenging. There is a tendency for under investigation and empiric treatments. Our case highlights the need for a proper diagnosis.

Case report
63-year male, smoker, (20 pack years) presented with one year history of swelling in right submandibular region. After initial slow and continuous growth, mass showed an accelerated enlargement in the last two months. No history of pain, fever, weight loss or loss of appetite. History of Intestinal TB in 2004 for which he underwent adhesiolysis, completed full course of first line anti TB treatment. Examination showed soft, painless solid mass at the right submandibular region, movable to the skin and the deeper tissue.
USG and CT scans of neck showed 1.9cm x1.9cm x2.5 cm node on right neck at level Ib with heterogenous enhancement, and necrosis within. Thyroid, bilateral parotids and submandibular glands were normal. Excision biopsy of the lymphnode was done and empiric first line anti TB treatment commenced. Histopathology showed papillary projections lined by double layered columnar epithelium into cystic spaces surrounded by lymphoid stroma suggestive of Warthin's tumor.

Discussion
Cystadenolymphomas are the second most frequent lesions of the parotid gland but their presence in cervical lymph nodes is very rare. Etiology is unknown but there is a strong association with smoking. It primarily affects elderly with male predilection. Heterotopia of salivary tissue during embryogenesis is the most likely explanation for the origin of these tumors in the upper neck and periparotideal region.

Conclusion
We presented a rare case of a unilateral cystadenolymphoma in upper cervical lymph node. Our case has shown that a thorough investigation of cervical masses is essential. Tissue is the issue. If cytology is not diagnostic a biopsy should be done.

Case Report II : Chest Medicine

All Hypothyroidisms May Actually Not Be Hypothyroidism

Dr. Ruby Joseph.K., MBBS DNB Trainee
Dr. Preethiraj Ballal, MBBS, DNB Trainee
Dr. Abha Pandey, MBBS, DNB, IDCCM
Dr. Jalil D. Parkar, MD, FCCP (USA)

Abstract
Background : Systemic lupus erythematosus (SLE) is the prototype of systemic autoimmune diseases of unknown aetiology. Despite its rarity in India a thorough workup is warranted in patients with suggestive history and clinical findings. It is of utmost importance as SLE has multisystem implications. Our patient who presented with features of sepsis, nephrotic syndrome and hypothyroidism later on turned out to be SLE following a detailed workup.

Clinical History : 19 year old female presented with complaints of palpitation / breathlessness / anasarca / fever since 5 days, a non healing ulcer on left foot since 3 months following insect bite requiring wound debridement. There was a history of alopecia and oral ulcers, joint pain, menustrual irregularities 3 months back for which she was evaluated & diagnosed to have hypothyroidism for which she was on Eltroxin & Medroxyprogesterone. On admission she was tachypnoeic, tachycardic, mildly hypoxoemic and dehydrated. Chest X-Ray showed B/L pleural effusion. 2D Echo revealed a pericardial effusion. She had raised creatinine, microalbuminuria and proteinuria. CBC,CRP,PCT And Blood cultures were unremarkable. Her complement levels C3 and C4 were low, ANA and Anti ds DNA was positive.

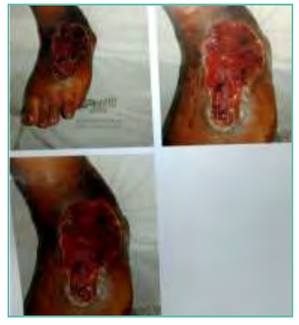


Fig. 1 - Non healing ulcer on left foot.

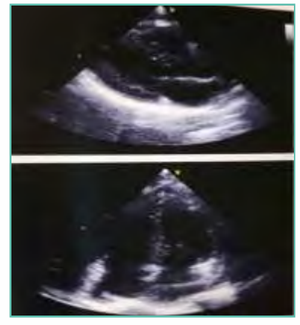


Fig. 2 - 2D Echo shows pericardial effusion.

Immunofluorescence Studies:
IgG,IgM,IgA,C3,C1q –Positive
C4- Negative

Clinical Course
She was started on immunosuppressants (mycophenolate mofetil) and pulse therapy of iv Methylprednisolone. Pleural fluid was tapped & renal biopsy was performed which revealed lupus nephritis Type II A. She recovered fully after the treatment and presently is asymptomatic.

Fig 3 - Chest X Ray PA View on 30/09/16

Fig 4 - Chest X Ray PA View on 03/10/16

Discussion

There were many diagnostic possibilities. Infection appeared less likely, as she worsened on antibiotics. Hypothyroidism and nephrotic syndrome were initial differential diagnosis as her symptoms could be completely explained by above. In our case detailed connective tissue disorder workup clinched the diagnosis which was confirmed by renal biopsy.

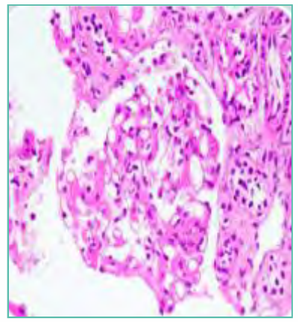


Fig. 5 - 400x, H & E Stain

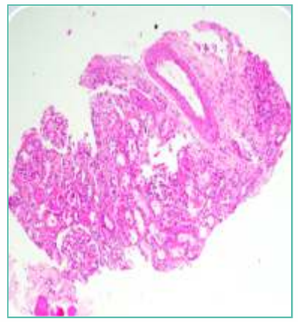


Fig. 6 - 100x, H & E Stain

Light microscopic picture of Renal Biopsy (Fig. 5 & 6) - Patchy increase in mesangial matrix. No increase in mesangial cellularity seen. Slight tubular atrophy and mild interstitial fibrosis seen with mild medial hypertrophy in large blood vessels.
LUPUS NEPHRITIS TYPE II A. ACTIVITY SCORE 2/24, CHRONICITY SCORE 2/12.

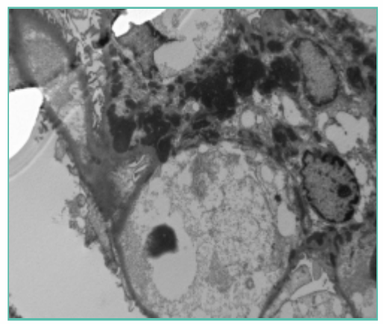


Fig. 7

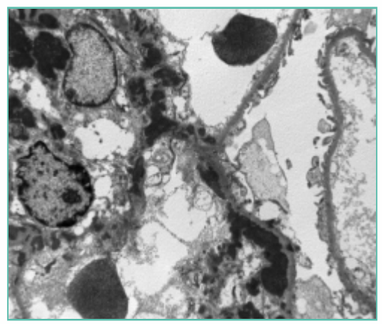


Fig. 8

Electron microscopic picture of renal biopsy (Fig. 7 and 8) - Flat foot processes.Copious mesangial deposits seen. Minimal mesangial Lupus Nephritis

Conclusion

Hence a high index of suspicion is recommended for early diagnosis of SLE (Systemic Lupus Erythematosus), especially in young females who present with a cluster of symptoms involving multisystem which may seem unlinked initially but an elaborative investigative work up would reveal an underlying SLE.

A Newborn With Congenital Chylothorax: Successful Medical Management

Dr. Manish K. Arya, MD (Paed.)
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Dr. Santosh Karmarkar, M.S (General Surgery), M.Ch. (Pediatric Surgery)
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Abstract

Congenital chylothorax is accumulation of chyle in pleural cavity due to release of chyle from thoracic duct or lymphatics, usually presenting in newborn or early infancy as respiratory distress. They are susceptible to infection and malnutrition due to loss of immunoglobulin and protein. Half of the cases recover spontaneously with supportive care and do not require any major intervention. Rest of them require medical intervention with intercostal drain, nutritional support with medium chain triglyceride, octreotide and very few require surgical corrections.

Introduction

Congenital chylothorax is defined as pleural collection of fluid formed by the escape of chyle from the thoracic duct or lymphatics into the thoracic cavity. It is one of the rare causes of pleural effusion in children but most common cause of pleural effusion in neonates. Congenital chylothorax is most commonly associated with abnormalities of lymphatic system, congenital heart disease, mediastinal malignancies and chromosomal abnormalities but significant number of cases are without any identifiable causes. It may result in significant respiratory morbidity and immunodeficiency in infants and children because of loss of protein and immunoglobulin if not diagnosed and treated appropriately. Here we are going to discuss a case of idiopathic congenital chylothorax alongwith therapeutic approach and management.

Case History:

A preterm, low birth weight, male baby was delivered by LSCS at 32 weeks of gestation i/v/o placenta previa diagnosed at 24 weeks of gestation in a primigravida mother referred by Dr.Prasanna Wagh. Baby was 1.8 kg, cried immediately after birth, shifted to nicu i/v/o respiratory distress and preterm care.

In NICU child was euthermic, pink and warm with heart rate of 160/minute and stable hemodynamics. His respiratory rate was 50-60/minutes with intercostal and subcostal retractions but maintaining saturation on oxygen by nasal prongs @ 2 litre/minute. The child did not have any dysmorphic features or neurocutaneous markers. Rest of systemic examinations were normal. He was started on oxygen with nasal prongs, kept nil per oral and continued on intravenous maintenance fluid. In view of increasing respiratory distress, CXR was done which was s/o bilateral infiltration? HMD (hyaline membrane disease). Child was intubated, mechanically ventilated and received two doses of surfactant i/v/o suspected HMD. On day 4 of life child was extubated and started on oral feeds gradually.

CBC and other septic parameters were unremarkable. Post extubation child remain tachypnoeic and repeat CXR done on day 8 of life i/v/o increasing respiratory distress was s/o right sided pleural effusion. USG thorax also confirmed right sided pleural effusion with 40-50 ml of fluid. 2D Echo showed mild pericardial effusion and neurosonography was normal.

Diagnostic tapping was done which showed milky fluid (chyle). Routine examination of the fluid showed sugar of 78 mg%, total protein 7.5 grams, wbc 10,200 with lymphocyte of 95% and a triglyceride level of 646, s/o chylothorax. So intercostal drain (ICD) was inserted and child also received parenteral nutrition. Gradually baby was started on mother's milk but the drain output increased with incremental feed intake. So feed was changed to Simyl MCT and and there was a progressive decrease in pleural drain output. ICD was removed at 1 month of life.

Again 5 days after achieving the full feed child developed respiratory distress with CXR s/o reaccumulation of fluid in right thoracic cavity.

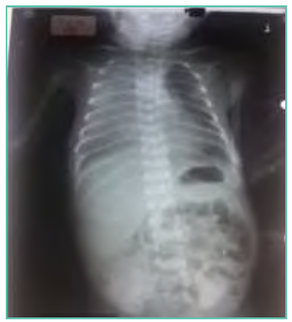

Fig. 1 - CXR showing chylothorax

Figure 1
ICD was again reinserted and child was started on octreotide in recommended dosage to reduce the chyle formation. HRCT was also done s/o moderate pleural effusion with underlying collapse, consolidation on right side.

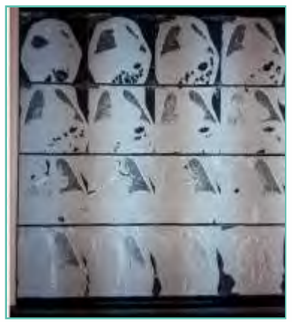

Fig. 2 - CT thorax showing chylothorax with ICD in situ

Figure 2
Baby was again restarted with MCT formula feed and gradually increased to full feed without any increase in drain output and subsequently mother's milk was introduced and tolerated well. Child became asymptomatic over period of time and repeat CXR didn't show any reaccumulation of chyle in right thoracic cavity. ICD was removed and baby was asymptomatic and discharged after achieving full breast feeding. Karyotype was also reported normal.

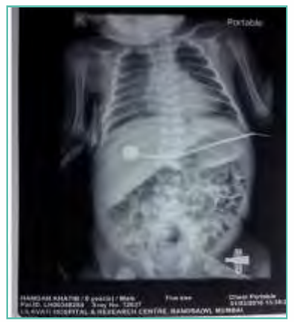

Fig. 3 - CXR showing resolution of chylothorax

Figure 3
In our case child was having congenital chylothorax with respiratory distress due to pleural effusion as early manifestation. We didn't find any obvious cause for the chylothorax and child gradually improved with conservative management.

Discussion

Congenital chylothorax, a life-threatening condition in newborns is identified by abnormal accumulation of chyle in the pleural space and is considered an uncommon cause of respiratory distress. [1] It accounts for 1-2 % cases of pleural effusion with prevalence vary between 1/8600 to 1/15000 births. [2] Acquired cases of chylothorax is most commonly due to trauma to the thoracic duct secondary to cardio-thoracic surgery. Lymphangiomatosis and lymphangiectasias are common lymphatic abnormalities associated with congenital chylothorax and down's syndrome, turner syndrome, mediastinal mass like lymphoma and heart disease accounting for other cases. Traumatic rupture of thoracic duct secondary to hyperextension of spinal column or increased systemic venous pressure during difficult delivery could be reason for idiopathic congenital chylothorax. [1] Congenital chylothorax are usually unilateral and commonly on right side (55%) with left side accounting for only 35% of cases.

Newborn can present with respiratory distress, hypoxemia or hypotension due to pleural effusion or accumulation of chyle in posterior mediastinum causing tamponade effect. Child may also have increased risk of infection and malnutrition due to loss of protein and immunoglobulins.

CXR and USG thorax are helpful in establishing diagnosis of chylothorax but confirmation of chylothorax needs evaluation of pleural fluid. Pleural fluid examination may have increased triglyceride (>110mg/dL), pleural fluid:serum triglyceride ratio >1.0, pleural fluid:serum cholesterol ratio <1.0 and presence of chylomicron on lipoprotein analysis with wbc >1000 cells/ml with >80% lymphocytes.(1,3) Lymphangiogram can localize the site of the leak and lymphoscintigraphy may demonstrate abnormalities of lymphatic trunks and peripheral lymphatics in difficult and refractory cases.

Most cases recover spontaneously with medical management without needing any surgical intervention. Child may need intercostal drain in cases of developing respiratory distress. Medical management include supportive care and enteral feeding with medium chain triglyceride but low fat, high protein diet or parenteral nutrition. [4] Child may need intermittent or continuous dose of octreotide to reduce the chyle output if it is not controlled by diet. [5,6] In refractory cases child may need surgery which include pleuroperitoneal shunt, thoracic duct ligation or application of fibrin glue. Chemical pleurodesis or irradiation can be tried for malignant chylothorax. Live viral vaccine are generally avoided in cases of congenital chylothorax due to deficiency of T cells.

In our case although congenital chylothorax took a bit longer time to resolve but it didn't require any major surgical intervention. Any pleural effusion presenting in newborn period needs to be evaluated for congenital chylothorax.

Special thanks to Dr.Prasanna Wagh for initial management of the patient and referring the patient to Lilavati Hospital.

Reference

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4. Avci A, Ulku R, Onat S. Chylothorax with Down syndrome: Unusual Case Report. Journal of International Dental and Medical Research. 2009; 2: 25-7.
5. Soto-Martinez M, Massie J (2009) Chylothorax: diagnosis and management in children. Paediatr Respir Rev 10: 199-207.
6. Mitanchez D, Walter-Nicolet E, Salomon R, Bavoux F, Hubert P (2006) Congenital chylothorax: what is the best strategy? Arch Dis Child Fetal Neonatal Ed 91: F153-154

Fun Time

1 **Alcohol makes which drugs less effective?**

Antibiotics | Benedryl | Anti-anxiety | Birth Control Pills

2 **Which medication should you avoid taking when you know you will be in direct sunlight for periods of time?**

Tetracycline | Penicillin | Valtrex | Cipro

3 **Which form of Hepatitis can you be immunized against ?**

Hepatitis B | Hepatitis D | Hepatitis C | Hepatitis A

4 **Which type of blood is more darker than the other?**

Arterial | Capillary | Spider veins | Venous

5 **What common medical condition when getting worse resembles someone that is intoxicated?**

Ketoacidosis | Cerebral Palsy | Encephalitis | Seizure Disorder

Kindly email us your answers on medicaltimes@lilavatihospital.com

Answer to previous quiz

1	**Hepato**	b. Liver	4	**Peri**	a. Around
2	**Inter**	d. Between	5	**Bi**	c. Two
3	**Brady**	b. Slow			

Straight from the Heart - Patient Testimonials

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

I was suffering from knee pain for the last one month. Doctors at Delhi diagnosed me with ligament injury coupled with degenerative bones.. And I was adviced for physiotherapy but there was not much relief even after a weeks physiotherapy in Delhi..

On reaching Mumbai I continued my treatment with the physiotherapy department of Lilavati hospital and I was given the Mckenzie treatment for almost 9 days back to back.. Within a couple of days I felt a magical change for the better.. The exercises helped me tremendously.. By the time I left I was almost pain free..

I am still continuing with my exercises which is helping me. I am very satisfied with the service, hospitality, behaviour and their personal care of the patient of the physiotherapy department of Lilavati Hospital, Bandra.

- Soma Sengupta

Care in the hospital was awesome, services are good. Cleanliness is well maintained. Nurses are very well prepared for the patients.

- Sohail Khan

Good behaviour of staff. Excellent guidance, Timely completion of healthcheckup. Overall excellent!

- G Ganeshan

Expert Doctors, Clear diagnosis from the doctors. Seamless integration between various experts. Friendly Staff, professionally run Hospital!

- Nilambari Salian

Nursing staff was very helpful and visiting doctors were also very kind. Surgeon was the best.

- Virendrapratap Singh

I liked the expertise of doctors & correct treatment.
I would like Lilavati Hospital to expand their Services by building another Hospital in nearby area so that it can serve larger population!

- Gajendra Sinha

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 has been accredited by Maharashtra Medical Council for conducting CMEs.

Sr. No.	Topic	Organized Month
1	Colostomy Care	March
2	Pulmonary Rehabilitation for Patients with Chronic Lung Diseases	March
3	National Polio Surveillance Refresher Training	March
4	Pulmonary Function Test	April
5	SPINA BIFIDA	April
6	Operative Spine Forum	May
7	Bronchial Asthma	June

SPINA BIFIDA

Pulmonary Function Test

Operative Spine Forum

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
Lactation
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 & Liver
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:

- Lilavati hospital is yet again adjudged amongst the **Top 10 Multispecialty Hospitals of India and amongst Top 3 Hospitals in West Zone in "Times of India - All India Multispecialty Hospital Ranking Survey 2017"**.

- 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. S. A. Merchant was invited as Senior Faculty at the C3 Conference in Orlando, USA to present papers & chair sessions on New Technologies in Cardiology in June, 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

NICU now for Outborn Babies

Contact our Intensivists

Dr. Sheikh Minhaj Ahmed - 98696 60060
Dr. Manish Arya - 98677 79565

IMPORTANT TELEPHONE NUMBERS

EMERGENCY / CASUALTY: 2656 8063 / 2656 8064

Admission Department	: 2656 8080 / 2656 8081	Health Check-up Dept	: 2656 8354 / 2656 8355
Ambulance	: 9769250010 / 7506358779	Heart Failure Clinic	: 2656 8354 / 2656 8355
Appointment-OPD	: 2656 8050 / 2656 8051	Liver Transplant Clinic	: 2656 8387 / 9930359546
Billing-Inpatient Dept	: 2675 1586 / 2675 1585	MRI Dept	: 2656 8066
Billing-OPD Dept	: 2656 8052	Nuclear Medicine Dept	: 2656 8092
Blood Bank Dept	: 2656 8214 / 2656 8215	Physiotherapy Dept	: 2675 1536
CT Scan Dept	: 2656 8044 / 2656 8045	Report Dispatch Counter	: 2675 1620
Hospital Board Line	: 2675 1000 / 2656 8000	TPA Cell	: 2656 8089
Hospital Fax	: 2640 7655 / 2640 5119	X-Ray, Sonography Dept	: 2656 8031

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Anaesthesiology
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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

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Ms. Gorawara Pooja
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Mr. Patadia Rajesh

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Dr. Nand Kumar
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Dr. Ravishankar V.
Dr. Vichare Sanjeev

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Dr. Redkar Rajeev G.

Paediatrics
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 Critical Care/NICU
Dr. Arya Manish Kumar
Dr. Sheikh Minhaj Ahmed

Paediatric Haematology / Oncology
Dr. Kanakia Swati R.

Paediatric Neurosurgery
Dr. Andar Uday

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

Paediatrics Nephrology
Dr. Ali Uma

Paediatric Opthalmology
Dr. Doshi Ashish

Pain Management
Dr. Baheti Dwarkadas
Dr. Jain Jitendra

Physicians / Internal Medicine
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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. Jain Leena
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. Handa Nayha
Dr. Kamath Satish
Dr. Manmohan Madan
Dr. Mehta Mona
Dr. Udare Ashlesha

Rheumatology
Dr. Gill Niharika

Sleep Study Specialist
Dr. Samtani Anil

Spine Surgery
Dr. Bhojraj Shekhar
Dr. Nagad Premik
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

Urodynamics Consultant
Dr. Dastur B. K.

Vascular Surgery
Dr. Patel Pankaj
Dr. Pai Paresh