LILAVATI HOSPITAL
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Lilavati Hospital and Research Centre

More than Healthcare, Human Care

NABH Accredited Healthcare Provider

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 we present to you yet another insightful 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, Plastic & Reconstructive Surgery, Radiology and Urology.

Besides this we have shared our straight of 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:

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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 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

Lilavati Hospital is known for setting the trends for others to follow. Below mentioned few developments are testimony of this.

LILAVATI HOSPITAL Has Successfully Launched The

LIVER TRANSPLANT CLINIC

HIGHLIGHTS OF THE CLINIC

- Transplant Team's Cumulative Experience of Over 2000 Liver Transplants
- Modular Operation Theatres
- Dedicated Liver Intensive Care Unit (LICU)
- State-of-the-Art Diagnostics & Therapeutic Facilities
- Backed by Experienced & Well Trained Team

• Gastroenterology • Gastrosurgery • Anesthesiology • Critical Care • Technicians • Nurses

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

introduces

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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.

HYPERTENSION CLINIC

Objectives

- To standardize hypertension management
- Avoid misdiagnosis
- Avoid under and over treatment of hypertension
- Scientifically customize hypertension management

We Standardise
Hypertension Care with Global Guidelines

HYPERTENSION CLINIC

Remember, treating high BP early saves life

HAIR TRANSPLANT CLINIC

Salient Features

- All techniques of hair transplantation available under one roof : Follicular unit transplant using strip harvest (FUSS/FUT), Follicular unit extraction (FUE), non scalp donor harvest – body hair transplant (BHT).
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- Safe & Evidence based approach.

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Bariatric Clinic

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Case Report I : Bariatric Surgery

Can 'Bypass after Bypass... change life for someone!

Dr. Shashank Shah, MBBS, MS, FMAS, FAIS, Bariatric Surgeon

A 68 year old businessman from Hongkong returned to Mumbai to enjoy his life 15 years ago. However, diabetes and its complications continued to bother him and his weight went rising from 75 to 110 kgs.

He underwent gastric banding in 2007 in other institute but failed to lose weight. His co-morbities continued to spoil his life by adding knee pain, peripheral neuropathy, burning feet, degeneration of spine and snoring. All these were progressive and he had to undergo CABG at our hospital in 2012. After excellent recovery from CABG he hoped for a better life again and in 2016 he got the gastric band removed and underwent laparoscopic sleeve gastrectomy at another institute. He lost just about 10 kg and regained the weight back to 106 kg. His craving kept on increasing with increasing doses of insulin.

Another bariatric procedure; gastric bypass after earlier three, with lots of adhesions was a difficult scenario for a surgeon.

Gastric Bypass after Coronary Bypass?

Would it be worth the risk?

Would it be feasible? These were the thoughts.

Due to poor quality of life the patient approached the Bariatric Clinic of Lilavati Hospital and was evaluated for the repeat high risk Bariatric Surgery.

He was admitted on the 13th March and underwent surgery on the 14th March. It was a complex redo surgery (Sleeve Dissection and Gastric Bypass) due to previous operations, however it got over in just 2 hours with only 4 punctures and blood loss of just less than 10ml. Patient was ambulatory within 4 hours after surgery. It was heartening to see that his blood sugars were normal without any medication or insulin.

He is expected to lose about 25 to 30 kgs over the next 9 to 10 months with his diabetes resolved or under control and metabolic syndrome improved.

Conclusion

- Gastric Bypass is known to resolve diabetes through the actions of various hormones secreted by GI tract.
- American Diabetes Association recognised this and added metabolic surgery as an option of treatment for type 2 diabetes and obesity.

Case Report II: Plastic Surgery

Total Lower Lip And Chin Reconstruction

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Young female presented 15 days after traumatic avulsion of total lower lip and chin. Reconstruction was attempted elsewhere with bilateral cheek advancement flaps *(Fig. 1)*.

Ryles' tube feeds begun and staged reconstructive surgeries planned. First, the defect was covered with free anterolateral thigh flap –ALT flap. Anastomoses done with left facial vessels in the neck. Fascia lata slings were made to provide for oral competence to prevent sagging of the flap and fold the distal part of flap on itself to form cover and lining of the lower lip. One sling was passed submucosally periorally around the upper lip and its ends sutured to orbicularis oris in the midline and and to each other. Next sling was passed submucosally from each commissure upwards and looped around the respective zygomatic arch with tension adjustment. The distal part of flap was hung over these slings thereby folded to form cover and lining of lower lip. Flap was inset at the lower labiogingival sulcus remnant. After three days, she resumed oral feeds with a competent sphincter *(Fig. 2)*.

After six weeks, she had reduced mouth opening, due to tightness of slings *(Fig. 3)*. Under local anaesthesia, the perioral sling was divided and mouth opening improved. Selective flap debulking done with liposuction. Subdermal vicryl sutures were taken to simulate the labiomental crease *(Fig. 4)*. One month later, she had mouth opening of three fingers *(Fig. 5)*, satisfactory lip seal and a reasonably normal appearance of the lower lip and chin in terms of tissue match and contour *(Fig. 6)*.

Fig. 1: Traumatic avulsion of total lower lip and chin

Fig. 2. First stage: reconstruction of lower lip and chin with distally folded free anterolateral thigh flap, showing good sphincteric action and lip seal.

Fig. 3. Reduced mouth opening noted on follow up.

Fig. 4. Second stage: Sling released, selective flap debulking with liposuction and bilateral commissural Z-plasty

Fig. 5. Improved mouth opening and good oral competence without any sagging of flap and no commissural contracture

Fig. 6. One month follow up- showing satisfactory contour of the lower lip and chin

Discussion

Functionally completing the oral sphincter and aesthetically enhancing the appearance of the lower face represent the challenges in total lower lip reconstruction while forming the basis of its reconstruction. Extended Karapandzic flaps involve local cheek tissue advancement medially to reconstruct near total lower lip defects with innervated tissue providing competent sphincter in single stage [1]. In her, option of any local flap was ruled out due to transverse cheek scars.

Free radial forearm flap is currently the gold standard flap for total lower lip defects due to its thin, pliable skin [2] and vascularised palmaris longus sling provides a dynamic sphincter [3]. Free ALT flap allows simultaneous flap harvest [4], provides fascia lata (5) and a concealed donor site scar making it meritorious over the former flap.

Conclusion

Versatility of free anterolateral thigh flap allows for a satisfactory restoration of a competent oral sphincter and an aesthetically appealing lower facial subunit.

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Case Report III: Plastic Surgery

Primary Breast Reconstruction: Redefining feminity

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Dr. Rahul Kumar, MBBS, 1st year General Surgery Resident
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Dr. Shrirang Purohit, MS, M.Ch. Plastic Surgery
Dr. Samir Kumta, MS, M.Ch. Plastic Surgery

Introduction:
Breast cancer is unfortunately a common disease affecting millions of women, often at a relatively young age. Reconstruction following mastectomy offers women an opportunity to modify some of the emotional and aesthetic effects of this devastating disease. Although varying techniques of alloplastic and autologous techniques are available, all strive to achieve the same goal: the satisfactory reformation of a breast mound that appears as natural as possible without clothing and at the very least is normal in appearance under clothing.

We present a case of 27 years old female with right sided carcinoma of breast treated with nipple preserving mastectomy and deep inferior epigastric artery perforator flap (DIEAP) flap for breast reconstruction.

Case report:
A 27 years old lady presented with a lump in the right upper quadrant of the right breast since 3 months. An incisional biopsy, done with a vertical incision above the nipple areola complex revealed it to be a ductal carcinoma-in-situ. *(Fig. 1)*

The patient was then posted for nipple preserving subcutaneous mastectomy through the previous incision. *(Fig. 2)*

Reconstruction was planned using the DIEAP flap. Pre operative colour doppler was done to mark the largest skin perforators arising from the DIEA.

Flap harvest:
The abdominal skin island was designed with the lower aspect of the incision transversely placed above the pubic bone, in line with the typical transverse Caesarean section incision. It extends laterally with a gentle curve superior to the inguinal ligament finishing adjacent to the anterior superior iliac spines. The upper incision is placed around the umbilicus, circumscribing it and then gently curving laterally to meet the lower transverse incision marking. *(Fig. 3)*

Fig. 1. Pre operative photo showing vertical scar of incisional biopsy.

Fig. 2. Photo of the defect post nipple preserving mastectomy.

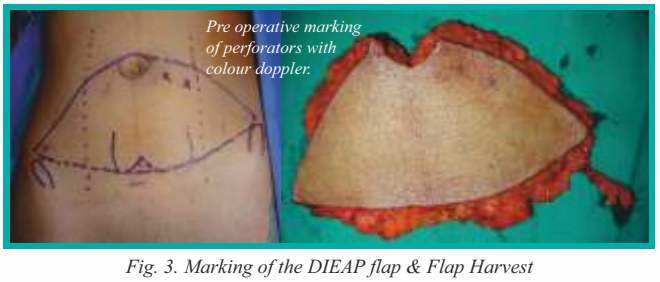

Fig. 3. Marking of the DIEAP flap & Flap Harvest

The flap was elevated from lateral to medial in a plane superficial to external oblique and anterior rectus sheath. The perforators were searched once the lateral border of rectus was reached. In this case we found 2 perforators arising from the main vessel on the left side and supplying the skin. The whole point of the DIEP flap is to preserve the rectus muscles. The rectus fascia was then incised longitudinally, around the perforator. The fascia was opened for 10 to 12 centimetres and the perforators traced through the muscle using gentle retraction of the muscle and the bipolar electrocautery. Small branches of the perforator were coagulated or clipped as they sprouted into the muscle and the perforators were traced to the DIEA and the venae commitans. The DIEA vessels were then traced back to near their origin while retracting the muscle away from the posterior rectus sheath and fascia transversalis. The DIEA and venae commitans were ligated & divided.

The rectus sheath was closed with a running large caliber non-braided suture. The abdominal wall was undermined to the costal margin and the abdominal incision was closed in layers over suction drains with the hips flexed and knees bent in a semi-fowler position. The umbilicus is brought through the abdominal wall and sutured into position.

The deep inferior epigastric artery and veins were sutured with the right Thoracodorsal vessels through a separate incision in the axilla. The part of the flap with poor vascularity was discarded. The flap was folded onto itself to create the breast mound and then sutured into the defect.

Her post-operative recovery was uneventful. Patient was discharged on 5th post operative day once the drains were removed. *(Fig. 4)*.

Fig. 4. Post operative photo of the reconstructed breast and donor abdominal site after 2 weeks.

Discussion:

Young women with breast cancer differ from older women in a number of ways that may affect their experience with breast reconstruction after mastectomy. Parenting, work or recreational activities may influence a young woman's decisions about whether or not to have reconstruction, timing of reconstruction and type of reconstruction. Young women with breast cancer are known to experience greater psychological morbidity and poorer quality of life than older women. A young woman's breast anatomy and physiology and overall medical condition generally allow more reconstructive options. Young women can often tolerate autologous reconstruction well and more young women are expressing interest in perforator-based free tissue transfer to reduce donor site morbidity.

The most prevalent reason for not undergoing breast reconstruction was the fear of cancer relapse. Other factors mentioned were to avoid additional distress on the body from surgery, financial reasons and a belief that breast reconstruction is unnecessary[1]. Women who had completed breast reconstruction showed higher self-evaluations of physical attractiveness and were more active in comparison to those who did not.

In patients requiring post mastectomy radiotherapy (PMRT), autologous reconstruction is the best method as implant-based breast reconstruction is associated with high risk of reconstructive failure and capsular contracture [2].

Conclusion

It is important that patient should be given the options and consultation with Plastic surgeon before admission to discuss various methods of breast reconstruction and advantages & disadvantages of each method.

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Acute Lung Injury following Bilateral Lung Transplantation due to Contralateral Pulmonary Arterial Anastamotic Obstruction

Dr. Babar B Chaudhri, MA, MD, FRCS (CTh)

Introduction

Survival after lung transplantation is improving[1,2]. This improvement is due to refinement of donor and recipient selection, lung preservation, perioperative and post operative management, immunosuppression and anastamotic techniques for bronchial anastamosis. Vascular complications are rare and impact adversely upon outcomes[3]. We report a case of bilateral lung transplantation complicated by unilateral lung injury due to contralateral pulmonary arterial stenosis.

The patient was a 36 year old female with a diagnosis of idiopathic pulmonary fibrosis. She was in WHO class III. Right heart catheterisation showed a mean PA pressure of 60mmHg, pulmonary capillary wedge pressure of 6 and a cardic index of 1.6. Her mixed venous saturations were 46%. A patent foramen ovale was present. She was treated with oral sildenafil, treprostinol 110ng $kg^{-1}min^{-1}$ and warfarin. Her preoperative chest radiograph is shown in *Fig. 1a*.

This patient underwent bilateral sequential single lung transplant. The donor was a deceased circulation donor (DCD) (non heart beating donor) and was appropriately sized matched. The procedure was done via a clamshell incision using cardiopulmonary bypass and with a period of controlled reperfusion of the engrafted lungs on completion of the implant of 25 minutes where the mean perfusion pressure in the pulmonary artery was measured on bypass and maintained by circulatory volume at a mean of 15mmHg while ventilating the lungs at 5ml kg^{-1} with room air. Systemic oxygenation was provided by the membrane oxygenator of the CPB circuit. The operation was uneventful.

On ICU return her gases were as follows: FiO_2 0.7 pH 7.45, pCO_2 4.3 PO_2 14.7 bicarbonate 21.1

Her post operative chest radiograph at 4 hours showed opacification of the R mid and lower lung fields. *(Fig. 1b)*.

Bronchoscopy was performed which showed severe hyperaemia R side with copius watery secretions. The left side was clear. Transoesophageal echocardiography showed that the right pulmonary venous/left atrial anastamosis unobstructed. Her oxygen requirement escalated to 100%.

A computed tomogram of her chest was done. *(Fig. 2a)*.

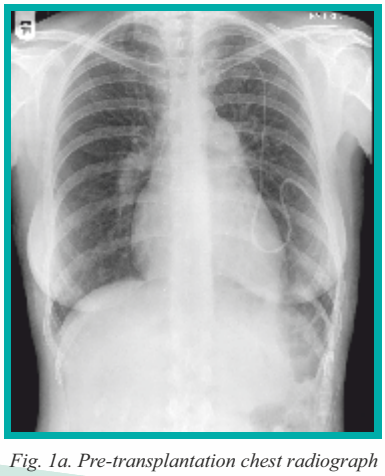

Fig. 1a. Pre-transplantation chest radiograph

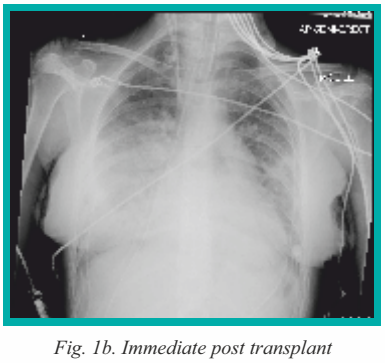

Fig. 1b. Immediate post transplant chest radiograph showing opacifiaction of R mid and lower zones.

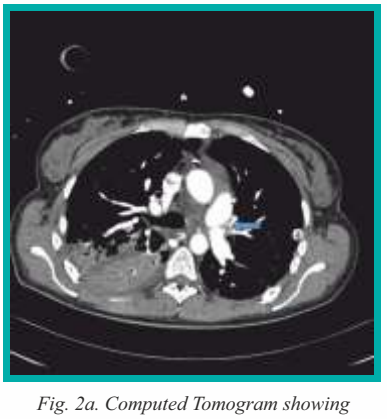

Fig. 2a. Computed Tomogram showing consolidative changes to the left lower lobe and obstruction of the right main pulmonary artery (arrowed).

This showed consolidative changes to the left lower and an obstructed left pulmonary artery anastamosis. The pulmonary venous/ left atrial anastamoses were unobstructed. A decision was taken for surgical exploration. This confirmed distortion of the left PA anastamosis. This was taken down and reconstructed.

On return from theatre her oxygen requirements were reduced and over successive days there was considerable improvement of her chest radiograph with resolution of consolidative changes *(Fig. 2b and 2c)*.

Fig. 2b. Chest radiograph on immediate return from theatre post surgical exploration.

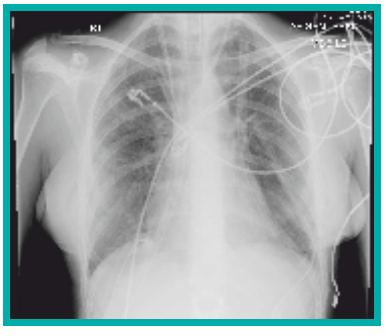

Fig. 2c. Chest radiograph 7 days post operatively.

Discussion

Following bilateral lung transplantation the emergence of unilateral consolidation and oedema should alert the surgeon to the possibility of ipsilateral pulmonary venous obstruction obstruction. A transoesophageal echocardiogram should be performed to exclude this. If despite this, the presence of persisting high O_2 requirements and shunting should raise a high index of suspicion that there may be a contralateral PA anastamotic stricture. The causes of pulmonary artery stenosis acutely after lung transplantation are due excessive length of the donor and recipient segments resulting in, distortion of the anastomosis, inadequate donor length, technical anastomotic narrowing, twisting of the anastomosis and intraluminal thrombus formation4. This will result in hypoperfusion of the lung on the side of the stenosed PA anastamosis and result in hyperperfusion of the contralateral lung, arising to lung leak and consolidative changes. This mandates urgent surgical correction.

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Case Report V: Radiology

Role of MRI in evaluation of Diabetic foot

Dr. Reshma Gokarn, M.D. Radio-diagnosis
Dr. Ashlesha Udare, M.D., D.N.B, ESR Fellow

Case series

1) A 66-year-old male with diabetes mellitus came with pain and swelling in the left foot. There was history of trauma to the left foot.
2) A 51-year-old female with diabetes mellitus was referred for right foot ulcer. She had established peripheral neuropathy.
3) A 76-year-old male with diabetes mellitus came with swelling in the right foot since 20 days.

A dedicated high-resolution 3T MRI of the foot was performed for all these patients.

Discussion

Diabetes-related foot ulcers and infections are associated with high morbidity and healthcare costs. The lifetime risk for development of foot ulcers among diabetic patients is approximately 25% and as many as 50% of patients develop infections.

Neuroarthropathy and osteomyelitis often occur concurrently in the diabetic foot but either of them may be more prominent. Both conditions present clinically with an inflamed foot.

In case of early osteomyelitis the rate and accuracy of detection by conventional radiography is at best 50%–60%. For the assessment of infection MR imaging is the modality of choice with sensitivity and specificity of 90% and 83%[1].

The sine qua non for a diagnosis of diabetic pedal osteomyelitis is a finding of bone marrow edema immediately adjacent to a soft-tissue infection or ulcer, with or without evidence of cortical destruction. In the setting of acute neuropathic osteo-arthropathy, MR imaging shows extensive soft-tissue edema occurring in the absence of infection or ulceration. Recent technical advances like DWI, Dynamic MRA and MR neurography have increased the capability to add functional quantitative information[2]. Since their management is significantly different, it is important to differentiate between these two conditions in diabetic patients.

	Active Charcot Neuro-Osteoarthropathy is a JOINT disease Osteomyelitis preferentially is a BONE disease	
	OSTEOMYELITIS	NEUROPATHY
Bone marrow signal change	High signal on T2 and STIR. Low on T1 with enhancement	Acute: mimics osteomyelitis. Chronic: normal marrow signal
Bone marrow oedema pattern	Single bone	Periarticular and subchondral
Typical location	Weight bearing regions	midfoot involvement
Deformity	Usually no deformity	Deformity is common along with bony debris
Soft tissue changes	High association with overlying ulcer, abscess or sinus tract	Overlying skin is usually intact but may be oedematous

Case 1:

Sagittal pre and post-contrast T1-weighted MR image shows extensive enhancing signal in muscle with hypointense foci within the enhancing soft tissue (suggestive of gas gangrene). Also seen T1 hypointense oblique fracture of fourth metatarsal

Fig. 1

Fig. 2

Case 2:

Sagittal STIR and T1-weighted MR image shows a large soft- tissue ulcer and an extensive region of hypointensity extending upto the bone deep to the ulcer.

Fig. 3

Fig. 4

Case 3:

Sagittal pre and post-contrast T1-weighted MR image shows rim-enhancing collections superior to the 1st metatarsal and lateral aspect of cuboid

Fig. 5

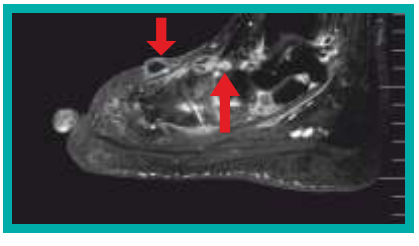

Fig. 6

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Case Report VI: Urology

Ectopic ureter with large lower ureteric mass

Dr. Monish Patil, 1st year DNB Trainee
Dr. Amit Tripathi, 1st year DNB Trainee
Dr. Uday Chandankhede, 2nd year DNB Trainee
Dr. Sumit Agarwal, 2nd year DNB Trainee
Dr. Pawan Raghandale, Clinical Associate Urology
Dr. Hemant R Pathak, MBBS, M.S. (General Surgery), M.Ch. (Urology), DNB (Genitourinary Surgery)
Dr. Sharad Shah, MBBS, MS (General Surgery), M.Ch (Urology)

A 69 years male, presented with complaints of dull pain in left flank region and hematuria on and off since 2 months. No history of colicky pain, lithuria or pyuria , anorexia or weight loss. No h/o irritative voiding symptoms, fever or history of tuberculosis. Systemic examination was unremarkable.Patient had undergone evaluation at Jamshedpur

CT scan showed- 1.6 * 1.3 * 1.9 cm well defined heterogeneously enhancing endophytic mass arising from left distal ureter with severe left hydronephrosis.
Absent contrast excretion from left kidney on delayed phase. Multiple small non-enhancing hypodense lesions in left lobe of liver.

Ureteroscopy and biopsy of left ureteral mass - showed blood clot and necrotic tissue. Ectopic left ureteric opening near prostate. Right ureteric opening near bladder neck.Patient was referred to our hospital.

Ultrasound abdomen pelvis revealed 2.6 * 1.4 cm hypoechoic lesion with internal vascularity in left distal ureter causing upstream gross hydronephrosis and thinning of left renal parenchyma. Few cysts in left lobe of liver.

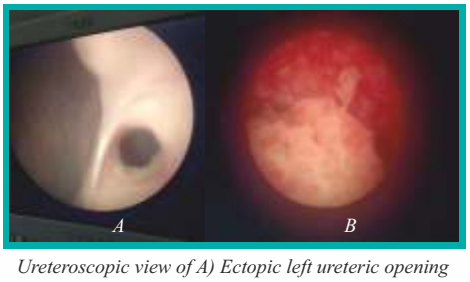
CT IVU showing left lower ureteric mass and dilated left ureter

Urine cytology was suggestive of urothelial cells with mild nuclear atypia, favor reactive atypia.

Ureteroscopy with biopsy of the left ureteric mass was performed to confirm malignancy which was suggestive of transitional cell carcinoma. e/o ectopic left ureteric opening over bladder neck.

HP report- High grade papillary TCC with no lamina propria invasion.

As a part of metastatic workup, PET scan was performed which showed high grade proliferative activity in left distal ureter. The hypodense lesions in liver showed no metabolic activity favoring benign etiology. There was no e/o active disease in lungs, skeletal system or elsewhere in the body.



Ureteroscopic view of A) Ectopic left ureteric opening B) Papilloma in lower ureter

Patient underwent laparoscopic left radical nephro-ureterectomy. After delivery of specimen, mitomycin c 40 mg was instilled intravesically.

Histopathology report showed :

- High grade papillary TCC. SIZE- 3 CM
- TNM stage pT1
- Cut end of ureter free of tumor

Patient discharged and called for follow up.

B) PET image showing tracer activity in left lower ureter

Discussion

Upper urinary tract carcinoma is a relatively rare disease, comprising 5% to 10% of all urothelial tumors. Most upper tract urothelial tumors are not large or bulky .The majority of upper tract tumors are urothelial cancers. These are largely derived from transitional urothelium; squamous cell cancers and adenocarcinomas represent a small minority.

Radical nephroureterectomy with excision of a bladder cuff is the gold standard for large, high-grade, suspected invasive tumors of the renal pelvis and proximal ureter. Bladder cuff not excised in this case due to ectopic ureteric opening. Select low-grade noninvasive upper tract tumors can be managed initially by ablative renal-sparing surgery. Retrograde ureteroscopy and ureteropyeloscopy are preferred when tumor size, number, and access allow complete tumor ablation.

Follow up consists of physical examination, urine cytology (only for high-grade lesions) and cystoscopy every 3 months–first year, every 6 months thereafter–years 2 through 3, yearly–thereafter; Contralateral imaging (IVU or retrograde pyelography)–yearly; Ipsilateral endoscopy (patients undergoing organ-sparing therapy)– every 6 months–first several years, yearly–thereafter; In addition metastatic evaluation is done for patients with significant risk of disease progression.

Abdominal wall ectopic testis - Case Report and Review of Literature

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Dr. Shirin Joshi, Clinical Associate Pediatric Surgery
Dr. Rajeev Redkar, M.Ch.(Paed. Surg), FRCS, DNB, MS (General Surgery), FCPS, IAS

Undescended testis is a common condition which affects about 2–4% of male infants and more commonly seen in preterm infants. The descent of testis is a complex process which requires cross talk between various hormones and testes. Undescended testis is where a testis has been arrested in its normal pathway of descent due to various factors. Ectopic testis is the one which has deviated from its normal pathway of descent. Abdominal testis is the rarest form of ectopic testis which has been reported in literature. To the best of our knowledge 6 cases have been reported till date.

Case report

Nine month old male child presented to us with complaints of left empty scrotum and a swelling on the left flank noticed since birth.

Ultrasonography of the abdomen was done at another center which reported a hernia on the left side. However the testis was not seen during the scan. With this report the child was referred to us.

Clinically the child had swelling measuring 5 × 4 cm in the left lumbar region which was soft, reducible and the testis was not palpable in the inguinal region. The left hemiscrotum was hypoplastic with reduced rugosity and pigmentation.

The child was then posted for diagnostic laparoscopy and we found the deep inguinal ring to be widely open and placed more laterally *(Fig. 1)*. The vas and vessels were seen exiting the ring and instead of traversing caudally towards the scrotum they were seen taking a "U turn" migrating cranially along the abdominal wall *(Fig. 2)*. This was the left abdominal wall ectopic testis.

Following this we performed an open groin exploration with the telescope in place to guide us to the sac and once the subcutaneous tissues were cleared the sac containing the testis was seen emerging from the deep ring and traversing cranially. The testis could be seen within the trans-illuminated sac *(Fig. 3)*. The sac was then separated from the vas and vessels *(Fig. 4)*, proximal part transfixed, ligated and peritoneum was closed. The testis with its attached vas and vessels was mobilized and brought into the surgically created sub-dartos pouch in the left hemiscrotum and pexed. The fascial defect in the external oblique aponeurosis was closed, ring was narrowed and posterior inguinal wall was strengthened. The immediate post-operative period was uneventful, so were the follow up visits.

Fig. 1. Wide open deep ring.

Fig. 2. Ectopic abdominal wall testis.

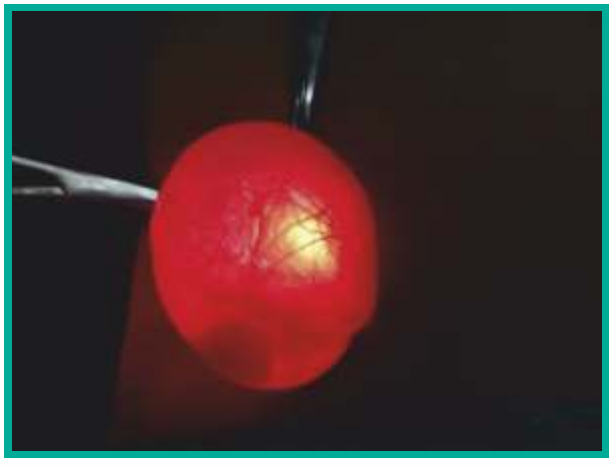

Fig. 3. Transillumination of the sac with testis.

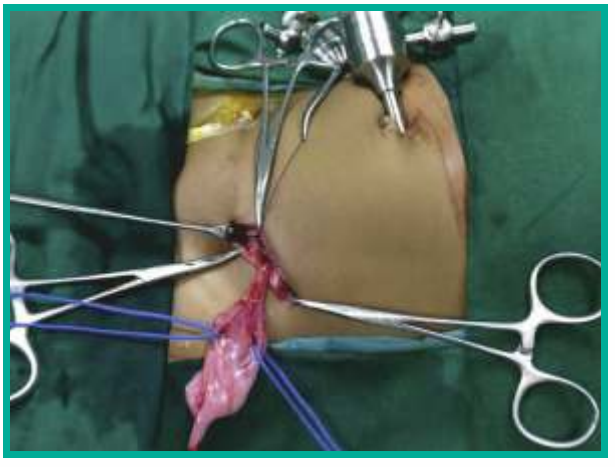

Fig. 4. Open inguinal exploration with testis with its vas and vessel.

Discussion

The testis starts to descend gradually at 8–15 weeks of gestation stays near the internal inguinal ring until the 7th month of gestation and finally passes through the inguinal canal to reach the scrotum near birth.

Undescended testis is a common condition which affects about 2–4% of male infants and more commonly seen in preterm infants. An undescended testis can usually be found along the route of descent which extends from the lower pole of the kidney, via inguinal canal to the entry of scrotum. When an undescended testis migrates away from its normal route of descent, it is referred to as an ectopic testis.

The common sites for ectopic testes include the superficial inguinal pouch, perineum, opposite side of the scrotum, femoral canal and the pubopenile region. Apart from these sites, pre-peritoneal and extracorporeal sites have also been noted but are extremely rare. The abdominal wall testis is the rarest form of ectopia which has been reported only 6 times in the literature to the best of our knowledge [1].

Testicular descent theories have evolved over time from biphasic to triphasic and then ultimately penta-phasic hypotheses. However, the emphasis has been on the transinguinal phase, considered crucial for the testicular ectopia. Abnormal testicular descent can either be undescended or, less commonly, ectopic [2].

Many hypotheses have been suggested to explain this occurrence. The most famous of these hypotheses is that of the "Tails of Lockwood". Currently, calcitonin gene-related peptide, a neurotransmitter released by the genitofemoral nerve is believed to help in testicular descent by providing a chemotactic gradient to guide gubernacular migration [3].

The deviation of a testis from its normal descent route to the anterior abdominal wall is inexplicable in the embryological sense [6]. This highly aberrant ectopia had been ascribed to Spigelian hernia that trapped a testis or to neonatal suppurative-omphalitis that forcefully dragged the testis upward during subsequent healing process [4]. In the present case no such findings were identified.

Indirect inguinal hernia is a common association with UDT but several investigators have found an association of UDT with Spigelian hernia and have postulated a correlation between the two. Spigelian hernia is a protrusion of extra-peritoneal fat, peritoneum or intra-abdominal organs through a defect in the Spigelian fascia lateral to the rectus. It is a rare type of hernia and even more rare in children. Approximately 35% of pediatric Spigelian hernias are associated with other congenital anomalies [3]. Of particular interest is the association of ipsilateral cryptorchidism. In the present case the patient did not have a Spigelian hernia identified at operation.

Siddiqui et al., in 2016 reported two cases, one of a 3 year old and a 6 month old child who presented with similar complaints of UDT and an ipsilateral hernia. Open groin exploration revealed the ectopic nature of the testis and sub-dartos orchidopexy was performed in both their cases.

Haseeb et al. reported two similar cases in 2016 where 6 and 9 months old children underwent inguinal exploration and the hernial sac containing the testis were seen migrating upwards between the muscle and fat planes in the abdominal wall. They performed herniotomy, narrowing of the wide deep ring and orchidopexy in both their cases.

Yeap et al., in 2011 described an abdominal ectopic testis in their 11 month old child who had antenatal ascites and features of fetal peritonitis who presented with unilateral UDT without any hernia. They performed a diagnostic laparoscopy and found bowel loops and testis being adherent to the anterior abdominal wall and they performed laparoscopic staged Stephens-Fowlers orchidopexy after separating testis from the bowel wall.

PLNG Rao et al. also performed open inguinal exploration and orchidopexy for their 3 year old child in 2005 with UDT and ipsilateral hernia which turned out to be an abdominal testis.

All the reported cases had an associated ipsilateral hernia at presentation like our case except for one case *(Table 1)*. All the cases were managed with an open inguinal exploration except for one case where diagnostic laparoscopy was performed and found to have adherent bowel wall along with ectopic testis. None of the cases except for one had an associated anomaly amongst the described cases. Our case too did not have any associated anomaly.

High degree of clinical suspicion is required to make the diagnosis pre operatively. Otherwise the diagnosis of such ectopic testis can be done using USS in experienced hands. MRI can be better in imaging such ectopic testis but may not be indicated in all cases of impalpable UDT unless associated with any other anomaly.

Table 1. Table with reported cases characteristics.

Research group	Year of publication	Patient size & characteristics	Management	Associated anomalies
Present case	2017	One case, 7 month old	Diagnostic laparoscopy and open inguinal exploration, subdartos orchidopexy	Nil
Siddique et al.	2016	Two cases, 6 months and 3 year old	Open inguinal exploration, subdartos orchidopexy	Nil
Haseeb et al.	2016	Two cases, 6 and 9 month old	Open inguinal exploration, subdartos orchidopexy	Nil
Yeap et al.	2015	One case, 11 month old	Diagnostic laparoscopy, staged Stephen-Fowlers orchidopexy	Fetal peritonitis
PLNG rao et al.	2005	One case, 3 year old	Open inguinal exploration, subdartos orchidopexy	Arthrogryposis multiplex congenita

Conclusion

Ectopic testis is a rare form of UDT and abdominal testis is the rarest of them. High degree of clinical suspicion is required for pre-operative diagnosis to be done. All such ectopic testis may not be associated with any anomaly but should raise a suspicion to look for any such associations. UDT associated with ipsilateral hernia should raise the suspicion of an ectopic testis.

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Research Article - II

Rare case of transverse testicular ectopia – Case report and review of literature

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This case report has been reported in line with the SCARE criteria; consensus-based surgical case report guidelines of International Journal of Surgery 2016.

Introduction:

Transverse Testicular Ectopia (TTE) is a rare condition which manifests with unilateral undescended testis and contralateral hernia. Till now around 100 cases have been described in the literature. The management depends on the anatomy of the vas, vessels and testis found on surgical exploration. An algorithm exists for its management and we propose a modified algorithm for management of TTE.

Case report

Five year old male presented to us with complaints of unilateral undescended testis on the right side withan inguinal hernia on the left side. Clinically, the right testis was impalpable and left testis palpable in the left hemiscrotum with fluid hernia on the same side *(Fig. 1, left side marked by yellow arrow and right side by red arrow in all figures)*. The patient had an ultrasound of the abdomen which showed both the testes onthe left side with fluid hernia also on the left side *(Fig. 2a)*. To confirm this finding the patient underwent a MRI which reported anoval structure above the right deep inguinal ring which represents atrophic testis *(Fig. 2b)*.

Due to the conflicting reports, it was decided to define the anatomy better with a diagnostic laparoscopy which showed closed internal ring on the right side, a wide open internal ring on the leftside and two sets of vas and vessels entering the ring, the right sided vas and vessels seen crossing the midline onto the left side and testis seen in the canal while another testis was palpable clinicallyin the left hemiscrotum *(Fig. 3a,b and c)*. There were no Mullerian remnants present in the abdomen.This was followed by a left inguinal exploration with dissection and ligation of peritoneal sac and separation of both the testes with their vas and vessels *(Fig. 4)*. Adequate cord length could not be achieved for the right testis to reach the right hemiscrotum hence we performed a trans-septal contralateral orchidopexy fixing the right testis in the left hemiscrotum with vas laterally vessels medially and testicular sinus anteromedially and left testis vice – versa *(Fig. 5)*. This case report has been reported in line with the SCARE criteria published in International Journal of Surgery 2016.

Discussion

Transverse testicular ectopia is a rare condition presenting with UDT and contralateral inguinal hernia. Although more than 100 cases have been described in the literature so far [1] those managed with a trans-septal contralateral orchidopexy are two cases to the best of our knowledge [2,3].

TTE was first described by Von Lenhossek in 1886 [4]. The mean age of presentation is around 4 years [5] and most of the cases are diagnosed on surgical exploration [6]. In fact, those diagnosed preoperatively are either diagnosed by USG or MRI [7] and clinical diagnosis is possible only when both the testes are palpable on the same side with an empty scrotum on the opposite side.

Fig. 1. Clinical photograph pre operative.

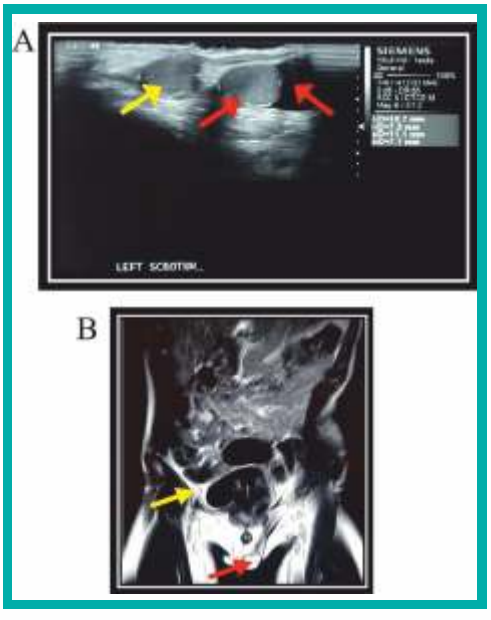

Fig. 2. (a) Ultrasonography
(b) Magnetic resonance image.

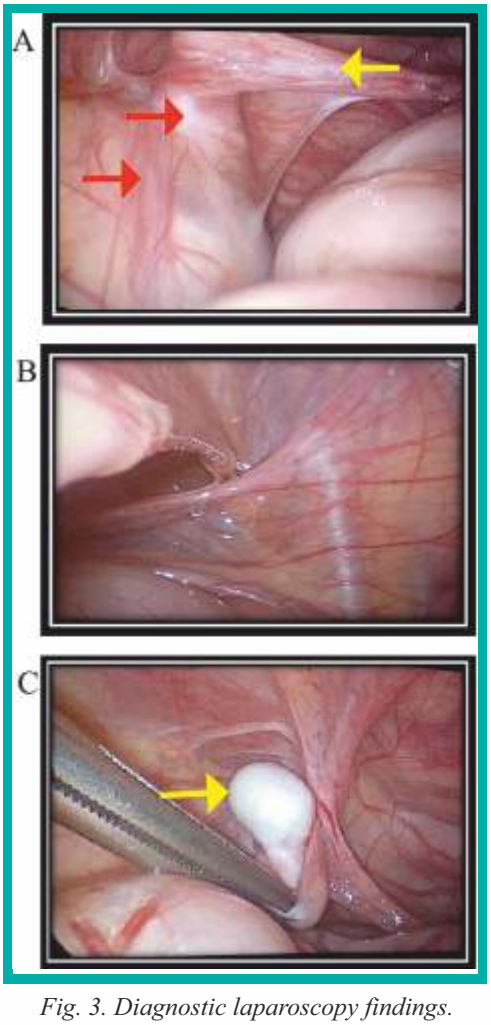

Fig. 3. Diagnostic laparoscopy findings.

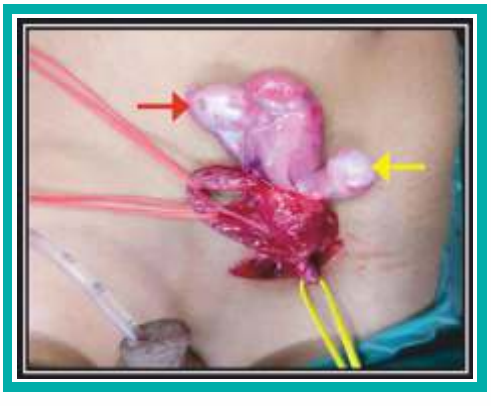

Fig. 4. Inguinal exploration.

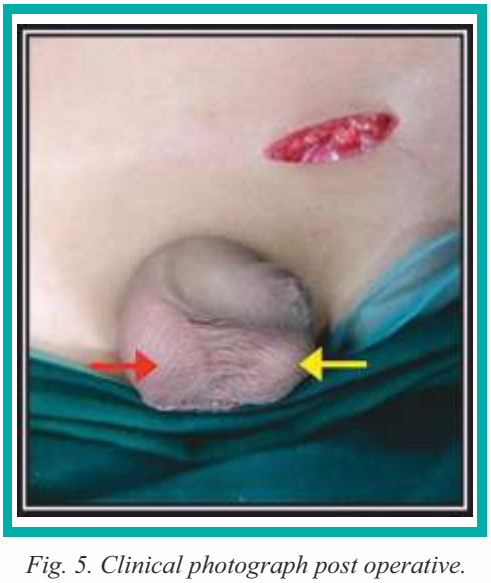

Fig. 5. Clinical photograph post operative.

There are various theories postulated in an attempt to explain its etiology. Berg thought that the two testes arise from the same germinal ridge [8]. Josso suggested various anatomical factors that may result in such an anomaly: defective implantation of the gubernaculum, obstruction of the inguinal ring and development of adhesions between the testes and adjacent structures [9]. Gupta and Das postulated that adherence and fusion of the developing Wolffian ductstook place early and that descent of one testis caused the second one to follow [10]. Paltii suggested a defective implantation of the gubernaculum testis or an obstruction of the inguinal ring preventing testicular descent on the ipsilateral side [11]. Several animal models have been studied to explain the etiology and Clarnette postulated that distal gubernaculotomy in rat could prevent development of the processus vaginalis because of mechanical disruption [12] while Frey and Rajfer noted that defective ipsilateral gubernacular development might predispose to TTE in their ratmodel [13].

Although many theories have been postulated, no single theory can explain the etiology and its variations and associated syndromes. Kimura believed that if both vasa deferentia arose from one side there had been unilateral origin but if there was bilateral origin, one testis had crossed over [14]. This theory explains the fused single vas deference but fails to explain the propensity for migration towards either side. Thevasthan who ascribed TTE to the testes both lying in the same saccus vaginalis before descent. This occurs if the testes or vasa deferentia are bound together or if the vasa are bound to Mullerian structures [15]. This theory explains the persistent Mullerian structures associated with TTE.

On the basis of the presence of various associated anomalies, TTE has been classified into 3 types [5]: Type 1, accompanied only by hernia (40% to 50%); type 2, accompanied by persistent or rudimentary Mullerian duct structures (30%) and type 3 associated with disorders other than persistent Mullerian remnants (inguinal hernia, hypospadias, disorders of sexual differentiation and scrotal abnormalities) (20%).

Persistent Mullerian duct syndrome (PMDS) is a rare form of male DSD characterized by the presence of uterus or Fallopian tubes in phenotypically normal 46 XY males [16]. TTE associated with PMDS is a rare syndrome and it was first described by Jordan in1895[17]. The condition is caused by an insufficient amount of anti-Mullerian hormone which is released from Sertoli's cells in testes or by insensitivity of the target organ to this hormone [18]. Whenever PMDS is suspected on USG or MRI, it has to be confirmed with a diagnostic laparoscopy, testicular biopsy and chromosomal studies[19].

Patients with TTE are at increased risk of malignant transformation. In fact, the overall incidence of malignant transformation of gonads is 18% which is slightly higher than UDT [19]. There have been reports of embryonal carcinoma, seminoma, yolk sac tumor and teratoma [20]. There are not many reports of malignancy arising from the Mullerian remnants so there is currently no indication for need to remove the remnants which may injure the vas and blood supply to testes [18].

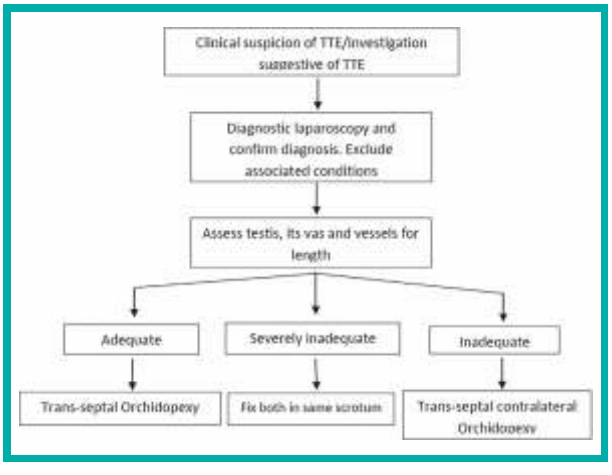

Fig. 6. Algorithm for management of transverse testicular ectopia.

The management of TTE remains controversial even though an algorithm has been described for its management [21] due to its varied presenting scenarios. The available options include inguinal exploration and orchidopexy, diagnostic laparoscopy andorchidopexy, diagnostic laparoscopy and trans-septal orchidopexy,diagnostic laparoscopy and trans-septal contralateral orchidopexy [22]. The laparoscopy-assisted orchidopexy was reported by Deanand Shah [23] while Balaji and Diamond first reported a case of TTE that was both diagnosed and treated by laparoscopy [24]. But the finding on exploration dictates the management and should be based on each case finding. An algorithm has also been postulated for management of TTE which was given by Bascuna et al.[21] which performs extensive dissection in order to gain length on vas and vessels. We propose a modification of their algorithm *(Fig. 6)* and propose not to perform extensive dissection in order to gain length because of the intricate blood supply which

may be shared between the testes and their vas and instead perform both or chidopexy on the same side if trans-septal orchidopexy is not possible.

This case report has been published in line with the SCARE criteria published in International Journal of Surgery in 2016[25].

Conclusion

TTE is a rare condition which requires high index of suspicion fordiagnosis preoperatively. Whenever suspected we recommend USG and/or MRI prior to diagnostic laparoscopy and proceed with orchidopexy. Diagnostic laparoscopy is both helpful in diagnosis and management. Transeptal contralateral orchidopexy gives good tension free fixation of testes in the scrotum.

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Straight from the Heart - Patient Testimonials

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Jayashree Pandya

Diagnosis & treatment of doctors, services rendered by nursing staff, cleanliness and promptness are excellent. In short it is upto the expectations of patients.

Rajni Girje

1st class service & attitude. A big thanks to the co-ordinator who went above and beyond. I will refer more to Lilavati due to the excellent service I received.

Mr. Kotecha

Lilavati Hospital - The name which is trusted, they keep people healthy. Keep it up!

A Louis Fernandes

Lilavati Hospital is the best & I have full faith on your doctors. One thing is very important that all your staff wear a lovely smile by which sick feels good!

Farshid Khambatta

I had a nice experience undergoing my health check up. The staff guided me quite well. The Health check up packages are awesome. Its my first time & I feel its worth. Thank you!

Jennifer Saldanha

Lilavati Hospital is the best & I have full faith on your doctors. One thing is very important that all your staff wear a lovely smile by which sick feels good!

Farshid Khambatta

To meet over immediate need Lilavati Hospital is always ready as like our home. We feel that we are one of the family member of the hospital.

Nishita Naik

Fun Time

Match the right pairs

1. Laceration	a. disease or symptom that lasts for a long time
2. Chronic	b. probable course and outcome of a disorder
3. Acute	c. identification of the disease
4. Prognosis	d. torn, ragged wound
5. Diagnosis	e. tissue death of an artery or arteries
6. Arterionecrosis	f. rapid onset of disease and a relatively short duration

Kindly email us your answers on medicaltimes@lilavatihospital.com

Answer to previous quiz

1. Blood Coagulation
2. Rickets
3. Beriberi
4. Pellagra

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Chemotherapy
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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

Audiometry
EEG / EMG
Health Check-up
Imaging Services
BMD
CT Scan
Interventional Radiology
MRI
Mammography
Non Invasive Cardiology
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

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.

No.	Topic	Department
1	Updates on Endovascular Intervention	Cardiology, Interventional Radiology & Vascular Surgery
2	Idiopathic Interstitial Pneumonia	Chest Medicine
3	Effective Communication Skills and Personality Development: The Essence of Good Medical Practice	All Departments
4	ISCCM - Mumbai Branch Monthly Meeting	Critical Care
5	Indications and Innovations in Liver Transplantation	Gastroenterology
6	Interstitial Lung Diseases, MCG Meet	Chest Medicine
7	Mumbai Hematology Group Meeting	Pediatrics

▲ Updates on Endovascular Intervention

▲ Indications and Innovations in Liver Transplantation

▲ Idiopathic Interstitial Pneumonia

▲ Interstitial Lung Diseases, MCG Meet

Important Telephone Numbers

Emergency / Casualty	**+91 22 2656 8063 / 2656 8064**
Admission Department	**+91 22 2656 8080 / 2656 8081 / 2656 8082**
AKD Counter	**+91 22 2656 8650 / 2656 8651**
Ambulance	**+91 97692 50010**
Billing - Inpatient	**+91 22 2675 1586**
Billing - OPD	**+91 22 2656 8052**
Blood Bank	**+91 22 2656 8215**
Blood Bank Medical Social Worker	**+91 22 2656 8214**
Cardiology	**+91 22 2656 8236**
Cath Lab	**+91 22 2656 8137**
Chemist	**+91 22 2675 1579 / 2675 1578**
CT Scan Department	**+91 22 2656 8044**
Dental	**+91 22 2656 8019 / 2656 8078**
Dermatology	**+91 22 2656 8020**
EMG / EEG	**+91 22 2656 8249**
Endoscopy	**+91 22 2656 8057**
ENT / Audiometry	**+91 22 2656 8232**
Health Check-up Department	**+91 22 2656 8354 / 2656 8355**
Hospital Board Line	**+91 22 2666 6666 / 2675 1000 / 2656 8000**
Hospital Fax	**+91 22 2640 7655**
IVF	**+91 22 2656 8226**
Medical Social Worker (SEWA)	**+91 22 2656 8361 / 2656 8362**
MRD	**+91 22 2656 8358 / 2656 8359**
MRI Department	**+91 22 2656 8066**
Nuclear Medicine / PET & SPECT CT	**+91 22 2656 8092**
OPD Appointment	**+91 22 2656 8050 / 2656 8051**
Ophthalmology	**+91 22 2656 8229**
Physiotherapy	**+91 22 2675 1536**
Central Report Dispatch Counter	**+91 22 2675 1620**
Sample Collection Room, Ground Floor	**+91 22 2656 8030**
TPA Cell	**+91 22 2656 8089**
TPA Fax	**+91 22 2640 5119**
Urodynamics	**+91 22 2656 8021**
Visa Section	**+91 22 2656 8248 / 2656 8244**
X-Ray, Sonography Department	**+91 22 2656 8031**

THANK YOU

Patrons for posing faith in your Trusted Healthcare Partner &
all our Doctors and Staff for making Lilavati Hospital
the preferred Healthcare Destination

BOARD OF TRUSTEES & SENIOR MANAGEMENT

Trusted Hospital 2017
by Readers Digest

World Blaze

TOP 15 BEST HOSPITALS IN INDIA 2018

No.1 Single Location
Multispecialty Hospital
in Mumbai

Amongst Top 10 Hospitals in India
by THE WEEK NIELSEN
Best Hospitals Survey 2017

"Centre of Excellence" in teaching
for DNB programme – NBE
Accredited Hospital by ANBAI

"Patient Safety Hospital
of the Year" by
Six Sigma Healthcare
Excellence Awards-2017

Best Multispeciality Hospital of the
Year 2017 by Prime Time Global
Healthcare Excellence Awards 2017

Amongst the Top 10
Multispecialty Hospitals of India
"Times of India - All India Multispecialty
Hospital Ranking Survey 2017"

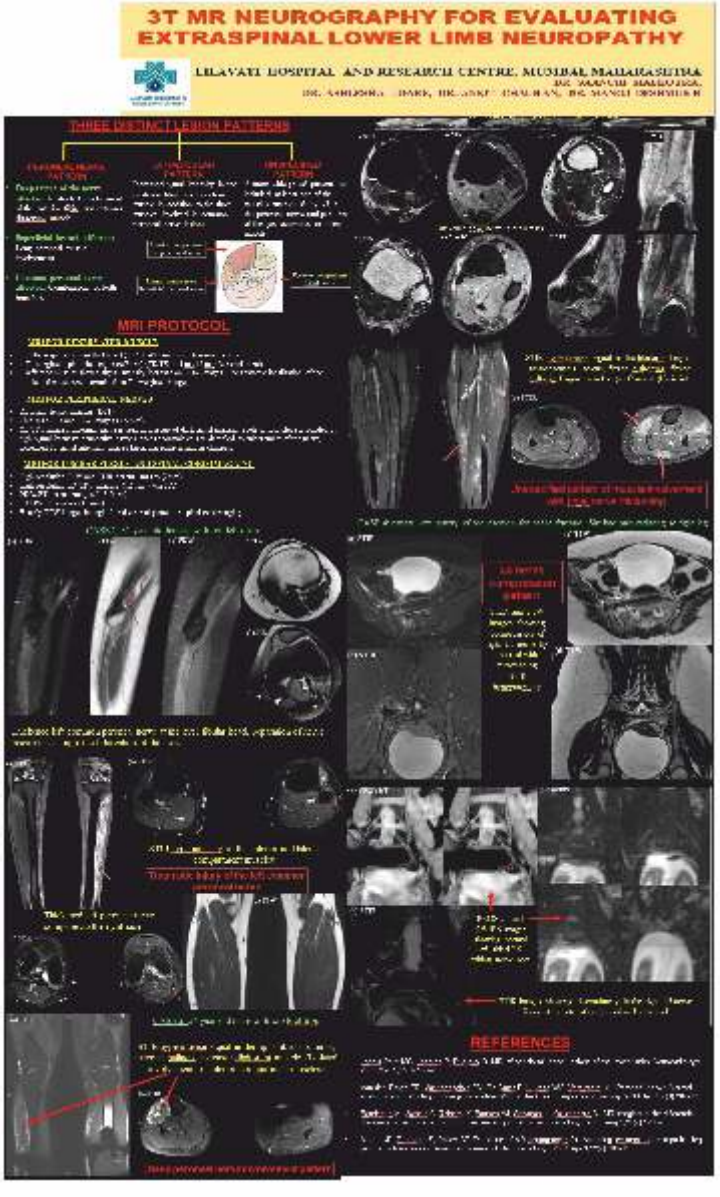
LET TRUTH PREVAIL

THE TIMES OF INDIA

Hospital tops "i3RC -
Times All India
Critical Care Hospital
Ranking Survey 2017"

Achievements

- Dr. M R Lokeshwar, Hon.Consultant – Pediatric Hemato Oncology) is bestowed with the title of the "Living Legends in Hematology" during the prestigious 41st Annual Conference of Mumbai Hematology Group held on 17.03.2018 at Mumbai. This recognition is an acknowledgement of his life time work in Pediatric Hematology.
- Dr. P. S. Ramani was conferred with the rare and prestigious **"Saraswat Bhushan Puraskar"** on 25th Feb, 2018 at the hands of revered H. H. Shivanand Saraswati Swamiji in Mumbai.
- Dr. Shahid Merchant (Hon.Consultant – Cardiology) is inducted in Cleveland's "The Medical Hall of Fame", the Doyens of Medicine, Biography book of World's Renowned Doctors.
- Dr. Deepak Ugra (Hon.Consultant – Pediatrics) is awarded FIAP (Fellow of Indian Academy of Pediatrics) on 4th January 2018.
- MRI e-poster titled 3T Mr Neurography for Evaluating Extraspinal Lower Limb Neuropathies presented by Dr. Saanchi Malhotra and co-authored by Dr. Ashlesha Udare, Dr. Ankit Chauhan, Dr. Shiv Mahinderu won 3rd prize at the 17th Asian Oceanian Congress of Radiology and the 71st Annual Conference of the Indian Radiology and Imaging Association (IRIA)



Publications by Department of Plastic Surgery

- Original Article- "Medial femoral condyle vascularised corticoperiosteal graft- a suitable choice for scaphoid non-union". Authors: Samir Kumta, Sudhir Warrior, Leena Jain, Shrirang Purohit, Rani Umul, Manik Menezes. Citation: Indian J Plast Surg 2017;50:138-47.
- Blog: https://shortnotesinplasticsurgery.wordpress.com/2016/11/14/59 on "Understanding flaps based on perforators" : Short Notes in Plastic Surgery
- Contributions to scientific content in the textbook: Evolution and Revolution of Perforator Flaps, Author: Jeong Tae Kim, Seoul, South Korea

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. Kothari Namrata
Dr. Patil Prajakta
Dr. Shah Falguni
Dr. Waradkar Samidha

Audiology & Speech Therapy
Mr. Bhan Satyan
Ms. Gorawara Pooja
Ms. Parulkar Bakul

Bariatric Surgery
Dr. Shah Shashank

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

Cardiology
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. Ratnaparkhi Gajanan
Dr. Samuel K. Mathew
Dr. Sanzgiri P. S.
Dr. Shah Chetan
Dr. Shah Nimit
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. Parasram Kamal S.
Dr. Pusalkar A.

Endo Urology
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Gastro Intestinal Surgery
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Dr. Kanakia Raju R.
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Dr. Parikh Samir S.
Dr. Shah Saumil K.

Gastroenterology and Hepatology
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Dr. Shastri Satyanand B.

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Dr. Goyal Swarna
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Dr. Pai Rishma D.
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Dr. Salunke Vivek
Dr. Shah Cherry C.

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Dr. Bhave Abhay

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Dr. Sattur Sandeep

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Healthcheckup Consultant
Dr. Desai Sandeep

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Dr. Tampi Chandralekha

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Dr. Nagvekar Vasant C.

Intensivist / Physician
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Dr. Shrinivasan R.
Dr. Vas Conrad Rui
Dr. Kumar Vivek

Interventional Neuroradiology
Dr. Limaye Uday S.

Interventional Radiology
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Dr. Sheth Rahul
Dr. Warawdekar Girish

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Dr. Maniar Rajesh N.

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Ms. Temkar Swati

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Dr. Upadhyaya Kirti L.

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Dr. Sirsat Ashok M.
Dr. Vyas Ajay

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Dr. Ramani P. S.

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Dr. Shimpi Mahajan Madhuri

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Dr. Sharma Shobha
Dr. Ugra Deepak

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Dr. Changlani Deepak K.

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

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Paediatric Neurosurgery
Dr. Andar Uday

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

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Dr. Ali Uma

Paediatric Opthalmology
Dr. Doshi Ashish

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Dr. Baheti Dwarkadas
Dr. Jain Jitendra

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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

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Dr. Gajiwala Kalpesh
Dr. Jain Leena
Dr. Kumta Samir
Dr. Prakash Siddharth
Dr. Purohit Shrirang

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

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Dr. Chulani Varkha

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Dr. Sangha Milan

Physiotherapy
Ms. Garude Heena

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Dr. Handa Nayha
Dr. Kamath Satish
Dr. Lokhande Kaustubh
Dr. Mehta Mona
Dr. Tyagi Neha
Dr. Udare Ashlesha

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Sleep Study Specialist
Dr. Samtani Anil

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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.

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Dr. Ramani Anup

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Dr. Dastur B. K.

Vascular Surgery
Dr. Patel Pankaj
Dr. Pai Paresh

LILAVATI HOSPITAL AND RESEARCH CENTRE

Committed towards Human Care

Lilavati Hospital is proud to announce the installation of the state-of-the-art "Philips Azurion 7F20" in its CATH Lab. This is the first of its kind high end configuration system installed in India.

Key Highlights:

- Clarity IQ Technology
- High Quality 2K x 2K imaging chain
- Sophisticated interventional tools
  - ✶ Stent Boost Live
  - ✶ Dynamic Coronary Road Map
  - ✶ 3D Road Map
  - ✶ 3D Rotational Angiography
  - ✶ Xper CT Dual
  - ✶ 2D Perfusion
  - ✶ Integration with Volcano IVUS System
  - ✶ Vaso CT

The new system enables excellent imaging for Coronary, Cerebro and Peripheral Vascular Diseases.

Lilavati Hospital and Research Centre

More than Healthcare, Human Care

NABH Accredited Healthcare Provider

A-791, Bandra Reclamation, Bandra (W), Mumbai - 400 050.
Tel.: +9122-2666 6666, +9122-2656 8000, +9122-2675 1000
Email: info@lilavatihospital.com • **Website:** www.lilavatihospital.com

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