

A Knowledge Sharing Initiative by Medanta

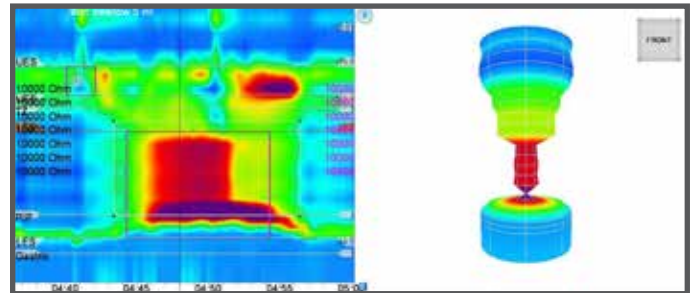
## Esophageal Manometry Enables Precise Diagnosis of Esophageal Disorders

Neurogastroenterology and GI Motility is a sub-speciality of gastroenterology which helps in identification and treatment of disorders of GI motility. It is particularly useful when routine testing seems normal, as it helps identify subtle disorders that enable a more accurate diagnosis. Early motility testing can resolve many symptoms of patients which if left untreated may develop into severe medical conditions.

### Case Study

A 19-year-old female was experiencing chest pain and reflux of food contents for two years. She complained of burning of chest and regurgitation of food, that worsened in evening and during stressful conditions. At times, the pain was severe enough for her to visit the emergency room or take pain killers which only partially relieved her symptoms. She went through multiple cardiac evaluations, however all of them came negative. She consulted few gastroenterologists who started her treatment for GERD or reflux disease with multiple medications which included antacids and acid blocking drugs. She was also referred for a psychiatric evaluation for functional dyspepsia and took medication for the same but received no relief. She was then referred for surgical fundoplication by her physician with the diagnosis of PPI non-responsive GERD.

She visited the GI Motility lab of Medanta Gurugram for evaluation of her esophageal function prior to anti-reflux or fundoplication surgery. Test results indicated a different diagnosis.



A High Resolution Impedance Manometry (HRIM) of Esophagus with 3D Recon of Swallow

Results of a high resolution impedance manometry done at the Medanta NeuroGastro and GI Motility Lab using latest 22 channel Laborie equipment revealed changes of compartmental pressurization of distal esophagus and non-relaxation of her lower esophageal sphincter on fluid challenge.

**HIGH RESOLUTION IMPEDANCE MANOMETRY measures pressures and fluid movement in the esophagus and lower esophageal sphincter. These measurements enable diagnosis of esophageal motility disorders and are crucial to the planning of most esophageal surgeries.**

**During the procedure a small flexible catheter (tube) is placed into the patient's esophagus through the nose. Local anaesthesia is used to complete the procedure. The patient is asked to swallow small amounts of salt water 10-12 times during the test.**

## Tech Byte

These findings were classical for Esophago-gastric Junction Outflow Obstruction (EGJOO) in the form of Type 3 Achalasia Cardia.

Her chest pain was due to episodic and spasmodic pressurization of her distal esophagus which can often mimic cardiac chest pain. That was the primary reason behind the multiple cardiac evaluations done for her.

She successfully underwent Per-Oral Endoscopic Myotomy (POEM) again under the guidance of motility lab for length of myotomy (decided by manometric findings). Post POEM, she had complete resolution of her symptoms and her quality of life improved significantly.

THE PER-ORAL ENDOSCOPIC MYOTOMY, OR POEM, is a minimally invasive surgical procedure for the treatment of achalasia. During the procedure, the inner circular muscle layer of the lower esophageal sphincter is divided through a submucosal tunnel which enables food and liquids to pass into the stomach. The tunnel is created, and the myotomy is performed, using flexible tubes known as endoscopes. The tubes can be passed through the mouth and rectum allowing physicians to examine the surfaces of the esophagus (food pipe), stomach, intestine, and colon without making a large incision elsewhere on the body.

Her follow up after 6-months confirmed that she was doing well and showed no prior symptoms.

This case highlights the need of early GI motility testing which can enable precise diagnosis and help a multitude of patients.

[medanta.org/doctors/dr-zubin-dev-sharma](http://medanta.org/doctors/dr-zubin-dev-sharma)

## Holistic Cataract Care

### Cataract Refractive Surgical Suite Clinic

Cataract surgery has come a long way over the past three decades. Once a person has been diagnosed as having impaired vision due to cataracts, there are two broad choices that need to be made. First choice is the kind of surgery (Traditional "Manual" Phacoemulsification or the "Robotic" Femto Laser Assisted Cataract Surgery conducted on the Cataract Refractive Suite) and the second is the choice of the intraocular lenses (IOLs) to be implanted during the surgery. Choice of the IOLs decide whether the patients will wear glasses after the surgery or remain spectacle free.

Surgery remains to be the most effective and successful way to eliminate cataracts. Cataract surgery, widely referred to as lens replacement surgery, involves removal of the natural lens of the eye. During surgery, the opaque eye lens also called "crystalline lens" that has developed cataract is replaced by an intraocular lens. Mostly, traditional monofocal lenses are used for cataract surgery. Since the monofocal IOLs focus on a single point, patients mostly need to wear glasses after a successful surgery.

For those preferring not to wear glasses after cataract surgery, various types of multifocal lenses are available. Though lenses minimize the use of glasses, a lot of them are associated with seeing "rings" in the vision, and the patient sometimes experiences halos and glare with bright lights. Now available in India, extended depth of focus (EDOF) VIVITY Intraocular lenses appears to be a near perfect solution for such commonly faced issues.



## Holistic Cataract Care at Medanta

Standard cataract surgery leaves room for human error, unlike the computerized precision offered by the advanced “Cataract Refractive Suite”. Available at Medanta, the suite delivers Femtosecond laser assisted bladeless cataract surgery, making the results accurate and precise. The Suite, comprising of Verion image guided system, LenSx laser, Centurion Vision system with the Luxor LX5 operating microscope, are the most accurate, state-of-the-art technologies available for cataract surgery.

- **Image Guided System:** The Image Guided System is designed to add superior efficiency to surgical planning and greater accuracy during the surgical procedure. It measures key elements such as the curve of the eye and the size of the pupil and also allows surgeons to check alignment and view incisions during procedures.
- **The LenSx Femto Laser:** The LenSx laser is a cutting edge equipment that provides the triple benefit of precision, accuracy and consistency. Considered a key tool in laser refractive surgery, it is designed to allow each step of the procedure to be planned and customized before the surgery, shortening the amount of time taken for cataract removal.
- **The LuxOr Operating Microscope:** LuxOr LX3 with Q-Vue ophthalmic microscopes are designed to deliver exceptional detail, unmatched visual clarity and an exact guiding image over the eye for surgical navigation during procedures. It has a reflex stabilizer that actively accounts for change in pupil size, eye tilt or patient movement, and provides greater depth of visual focus to aide surgeons.
- **The Centurion Vision System:** The Centurion vision system automatically adapts to changing conditions

within the eye, allowing for greater consistency and stability. It is the most efficient cutting system used for cataract surgery. It provides greater stability within the eye chamber during the procedure and enables surgeons to control in-eye pressure.

The Ophthalmology Division at Medanta, is designed to provide a comprehensive range of medical and surgical eyecare, which is dedicated to the protection, preservation, enhancement, and restoration of vision, for any age group. The team has successfully completed more than 7,000 cataract surgeries.

## EDOF VIVITY Intraocular Lenses

EDOF VIVITY lens is the latest generation of intraocular lenses that is based on the platform of mono-focal design with a modified surface that produces the bending of the light on to the retina giving a significant range for the person to be able to see distance, intermediate and up close mostly without glasses. The design form is such that it mimics the mono-focal implants so that all the night vision problems with the glare, rings around objects, associated with multifocal lenses get resolved. In short, the EDOF IOLs are based on the MonoFocal IOL design but function as a MultiFocal IOL. Most of the patients live a normal life after surgery and experience restoration of basic eye functionality. Recently, the Division of Ophthalmology led by Dr. Sudipto Pakrasi became the first to successfully achieve the fastest 250 cases of the new innovative VIVITY EDOF IOL (Extended Depth of Focus) in Asia. This was achieved in a record time of 16 weeks.

[medanta.org/doctors/dr-sudipto-pakrasi](https://www.medanta.org/doctors/dr-sudipto-pakrasi)

## Medanta@Work

### Adrenal Vein Sampling Helps Diagnose a Rare Endocrine Disorder

Primary Aldosteronism (PA), also known as Conn syndrome, is the most common form of secondary hypertension and is curable. Studies have reported a 5% prevalence of PA on average and 10% in hypertensive patients. It is commonly caused by an adrenal adenoma, unilateral or bilateral adrenal hyperplasia, or rarely by adrenal cortical carcinoma or familial hyperaldosteronism. Unfortunately, the condition is underdiagnosed mainly due to lack of awareness, and appropriate management is deferred due to the non-availability of resources for subtyping of disease.

#### Case Study

A 38-year-old female was referred to the Endocrinology Department of Medanta - Gurugram. She had been suffering from resistant hypertension with hypokalemia for eight years. She also had a history of spontaneous abortion due to high blood pressure. She was diagnosed to have primary hyperaldosteronism. In order to localize the disease, a contrast-enhanced CT abdomen with the adrenal protocol was performed, which revealed an adenoma of size 1.8 x 1.4 x 1.6 cm in the right adrenal and another adenoma of 8 x 7 mm in the left adrenal. Since there were bilateral adrenal adenomas, it was mandatory to lateralize the source of high aldosterone. Selective adrenal vein sampling (AVS) is the gold standard test to confirm the source of excess aldosterone. Therefore, the patient was referred to the Interventional Radiology Department of Medanta - Gurugram for AVS.

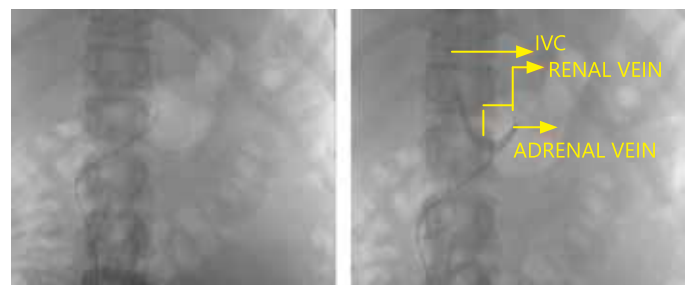
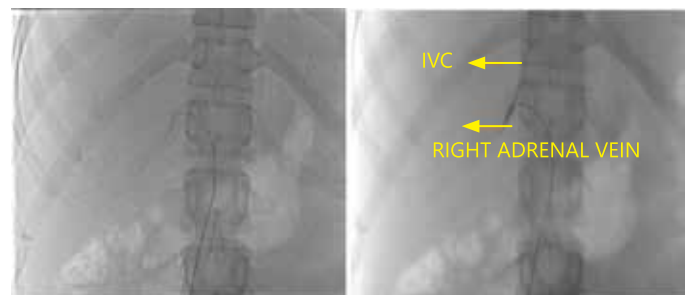
Right adrenal lesion



Left adrenal lesion



AVS is a meticulous procedure that is available only in specialized centers. It is usually done with ACTH stimulation with pre and post-stimulation timed sampling. The procedure requires a team of five doctors working in a coordinated manner to take simultaneous samples from the right and left adrenal vein and IVC with the precise collection, proper timing, and labeling. In this case, selective AVS helped in lateralizing the source of high aldosterone to the right side.



After confirmation of right-sided aldosterone secreting adrenal adenoma, the patient was referred to a urologist with experience in laparoscopic adrenal surgeries. Next, she underwent laparoscopic right adrenalectomy. Post-

surgery, her blood pressure stabilized without any need for anti-hypertensive, and her hypokalemia also resolved. Three months post-op, the patient is symptomatically better with the desired decline in serum aldosterone levels and normalization of aldosterone renin ratio suggesting biochemical remission.

This case highlights the importance of multi-disciplinary teamwork required to diagnose and manage challenging endocrine issues.

[medanta.org/doctors/doctors/dr-sunil-kumar-mishra](https://medanta.org/doctors/doctors/dr-sunil-kumar-mishra)

[medanta.org/doctors/dr-sanjay-saran-baijal](https://medanta.org/doctors/dr-sanjay-saran-baijal)

[medanta.org/doctors/dr-manav-suryavanshi](https://medanta.org/doctors/dr-manav-suryavanshi)

## Launch of Delhi's First Medanta Pharmacy at Medanta Mediclinic, Defence Colony



## Kudos

### HEARTY CONGRATULATIONS!



**Dr. Pratibha Singhi**

Director - Paediatric Neurology

Has been awarded the  
**14th Dr K.C Chaudhuri Oration Award 2021**  
for her exemplary contributions in the field of paediatrics



**Dr. Neelam Mohan**

Director - Gastroenterology & Hepatology

Has been awarded with the  
**Distinguished National Board of Examination (NBE) Teacher Award 2021**  
for her significant contributions in teaching young doctors

For **EMERGENCY DIAL** ☎ **1068**

### Medanta - Gurugram

Sector - 38, Gurugram, Haryana - 122 001 | Tel: +91 124 4141 414 | Fax: +91 124 4834 111  
info@medanta.org

#### Medanta - Lucknow

Sector - A, Pocket - 1, Sushant Golf City,  
Amar Shaheed Path, Lucknow 226030 | Tel: +91 522 4505 050

#### Medanta - Patna

Jaiprabha Medanta Super-Specialty Hospital, Kankarbagh  
Main Road, Kankarbagh Colony,  
Patna 800 020, Bihar | Tel: +91 82922 22333

#### Medanta - Ranchi

P.O. Irba, P.S. Ormanjhi, Ranchi - 835 217, Jharkhand  
Tel: +91 651 7123 100

#### Medanta - Indore

Plot No. 8, PU4, Scheme No. 54, Vijaynagar Square,  
AB Road, Indore, MP | Tel: +91 731 4747 000

#### Mediclinic - Delhi

E - 18, Defence Colony, New Delhi - 110 024  
Tel: +91 11 4411 4411  
mediclinic@medanta.org

#### Mediclinic Cybercity - Gurugram

UG 15/16, DLF Building 10 C, DLF Cyber City,  
Phase II, Gurugram 122 002 | Tel: +91 124 4141 472  
mediclinic.cybercity@medanta.org