medanta

THE EXCHANGE

Issue 92
November, 2025

A Knowledge Sharing Initiative by Medanta

Medanta Gurugram Performs India's First EVOH Embolisation for High-Flow AVM

Setting a New Benchmark in Advanced Peripheral Vascular Intervention

Scan to watch Dr. Virender K. Sheorain explain the case in detail.

Arteriovenous malformations (AVMs) are complex, high-flow vascular conditions where abnormal connections form between arteries and veins. They can cause significant pain, swelling, and tissue damage if not treated promptly. Managing such cases requires detailed planning and precise endovascular techniques to close the abnormal vessels while protecting healthy tissue.

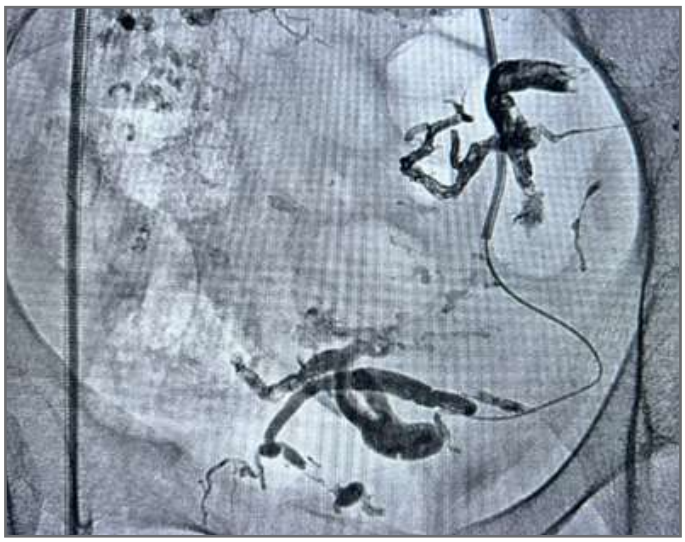
Case Study

A 19-year-old girl presented to Medanta - Gurugram with severe pain and a pulsating swelling in her left buttock. Clinical examination and imaging confirmed a high-flow AVM, a rare and challenging vascular anomaly.

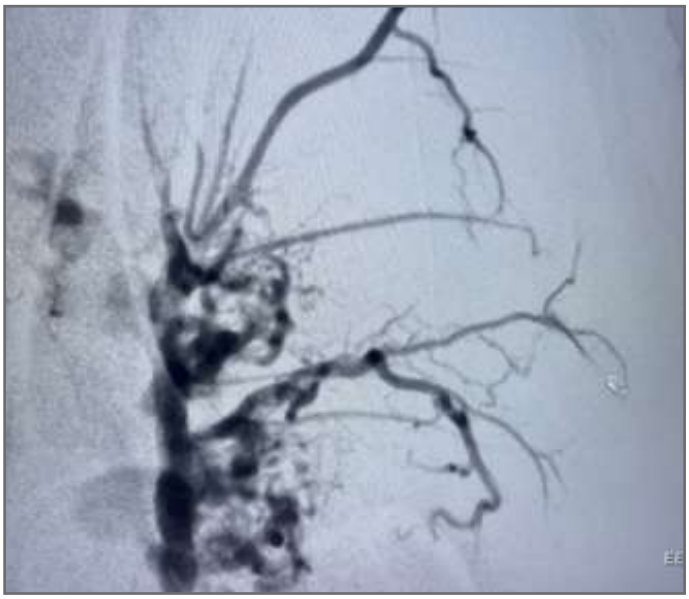
Comprehensive diagnostic evaluation, including Doppler ultrasound and angiography, was performed to map the vascular structure and blood flow pattern. The results showed a complex AVM with multiple feeding arteries and draining veins, requiring a carefully planned embolisation strategy for complete closure.

After thorough planning, the team performed an embolisation procedure using EVOH (Ethylene Vinyl Alcohol Copolymer, 6 ml vial), a new-generation liquid embolic agent used in peripheral angiographic procedures. This was the first time EVOH was used in India for treating such a case.

The agent's unique flow properties allowed deep and controlled penetration into the AVM, ensuring effective occlusion of abnormal vessels. The procedure was completed successfully, and the patient was discharged within 24 hours, pain-free and stable.



Angiogram showing the main hepatic artery and its branches with pseudoaneurysm formation



Selective, magnified hepatic artery angiogram revealing multiple small distal pseudoaneurysms

Conclusion

This case represents a major advancement in peripheral vascular intervention in India. It demonstrates how innovative materials like EVOH can enhance procedural safety and outcomes in complex AVM treatments. The success of this case reflects Medanta's commitment to bringing advanced, patient-focused technologies to clinical practice.

Technical Insight

EVOH (Ethylene Vinyl Alcohol Copolymer) is a non-adhesive liquid embolic material dissolved in dimethyl sulfoxide (DMSO) and mixed with fine tantalum powder for radiopacity. Once injected, it gradually solidifies to form a soft cast inside the targeted vessels.

Key advantages of EVOH include:

- Controlled and non-adhesive flow for precise delivery
- Deep penetration into complex vascular networks
- Reduced risk of catheter entrapment
- Clear visibility under fluoroscopy during the procedure

These features make EVOH particularly suited for high-flow AVMs that demand both precision and safety.

Dr. Rajiv Parakh
Chairman - Peripheral Vascular and Endovascular Sciences
Medanta - Gurugram

Dr. Tarun Grover
Senior Director - Peripheral Vascular and Endovascular Sciences
Medanta - Gurugram

Dr. Virender K. Sheorain
Director - Peripheral Vascular and Endovascular Sciences
Medanta - Gurugram

Medanta@Work

Pioneering Robotic CABG in Eastern India

Medanta Patna Sets a Benchmark in Minimally Invasive Cardiac Surgery

Coronary artery disease (CAD) is one of the leading causes of morbidity and mortality worldwide. In patients with multi-vessel involvement and reduced ventricular function, surgical revascularisation is often the most effective therapy. Conventional bypass surgery typically requires a full sternotomy, which can be especially taxing for elderly patients. With technological advances, robot-assisted CABG has emerged as a minimally invasive alternative, offering reduced surgical trauma, quicker recovery, and outcomes comparable to traditional approaches.

Case Study

A 75-year-old gentleman with a ten-year history of hyperthyroidism, presented with chest pain and palpitations persisting for 20 days. Coronary angiography performed outside confirmed single vessel disease, and he was referred to Medanta - Patna, for further management.

On admission, he was stable, with a pulse rate of 64 bpm, blood pressure of 150/80 mmHg, and a respiratory rate of 20/min. Cardiovascular examination revealed normal heart sounds, chest auscultation showed bilateral air entry, and neurological and abdominal examinations were unremarkable.

Investigations and Diagnosis

Routine blood investigations were within acceptable limits. Chest X-ray demonstrated unfolding of the aortic arch with mildly prominent bronchovascular markings but no acute abnormality. Echocardiography revealed akinesia of the basal interventricular septum and basal inferior wall, with a left ventricular ejection fraction (LVEF) of 45%. Additional findings included a dilated left atrium, mild to moderate mitral regurgitation, mild tricuspid regurgitation (PASP 29 mmHg), and Grade II diastolic dysfunction. Bilateral carotid and vertebral artery Doppler studies were normal. The diagnosis of single vessel coronary artery disease was confirmed.

Treatment and Recovery

After pre-operative optimisation and informed consent, the patient underwent Robotic Coronary Artery Bypass Grafting (CABG). The Left Internal Mammary Artery (LIMA) was harvested robotically and grafted to the Left Anterior Descending (LAD) artery via a left minithoracotomy, thereby avoiding a conventional sternotomy.

The procedure was uneventful. The patient was transferred to the intensive care unit with mild inotropic support and shifted to the ward on postoperative day 4. With early mobilisation, structured physiotherapy, and conservative management, he made steady progress and was discharged on postoperative day 6 in a stable condition, ambulating independently.

Intra-operative image showing robotic arms assisting in the surgery

Intra-operative view of the surgeon operating from the robotic console

Conclusion

This case marks a milestone as the first robotic CABG performed in Eastern India. For an elderly patient with reduced ventricular function, the robotic, minimally invasive approach provided clear advantages over conventional sternotomy:

- Smaller incision with no sternal division
- Reduced pain, blood loss, and infection risk
- Faster recovery and earlier mobilisation
- Improved patient comfort and cosmesis

The successful outcome highlights how robotic-assisted cardiac surgery can be safely and effectively applied to complex coronary artery disease, setting a new benchmark for advanced cardiac care in the region.

Dr. Arvind Kumar Goyal
Director - Cardiac Surgery
Medanta - Patna

Successful Organ-Preserving Management of a Giant Renal Angiomyolipoma

Through Combined Angio-Embolisation and Partial Nephrectomy

Scan to watch Dr. Narmada P. Gupta explain the case in detail.

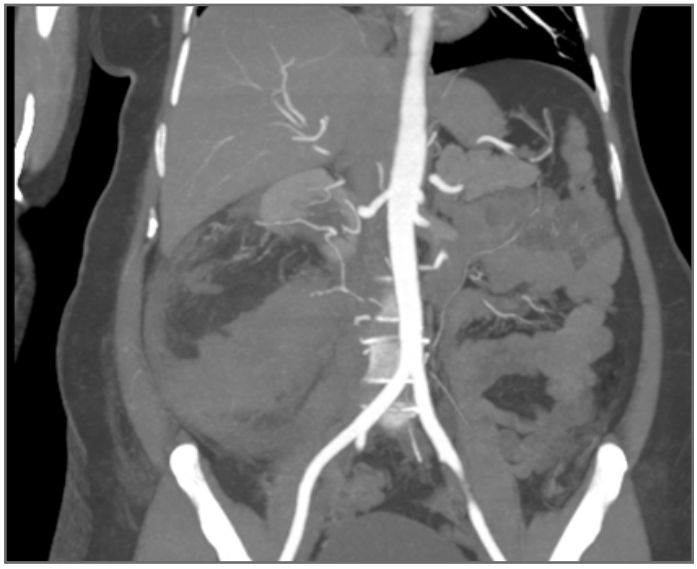
A 65-year-old female presented to the Emergency Department at Medanta - Gurugram with acute right flank pain, fever, and features of haemorrhagic shock. She had no prior history of abdominal pain or swelling. On examination, her abdomen was tense and distended, with a palpable mass in the right flank.

Initial investigations revealed a haemoglobin of 5 g/dl and normal renal function tests. The patient was stabilised with blood transfusions and admitted to the ICU for further management.

Investigations and Diagnosis

CECT Abdomen demonstrated a giant right renal angiomyolipoma (AML) measuring approximately 20 cm, with both kidneys showing preserved function. Angiomyolipoma is a benign renal tumour with a risk of spontaneous rupture and haemorrhage when large, which was evident in this case.

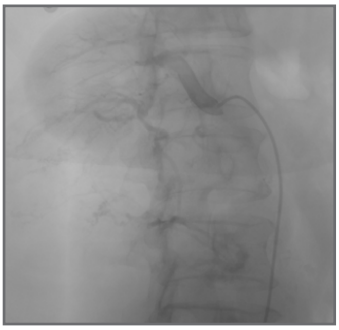
CT axial showing AML with haematoma



CT coronal showing AML and right kidney

Treatment and Recovery

Given the haemodynamic instability and active bleeding, the team decided on super-selective double feeder vessel angio-embolisation to control haemorrhage and optimise the patient for surgery.



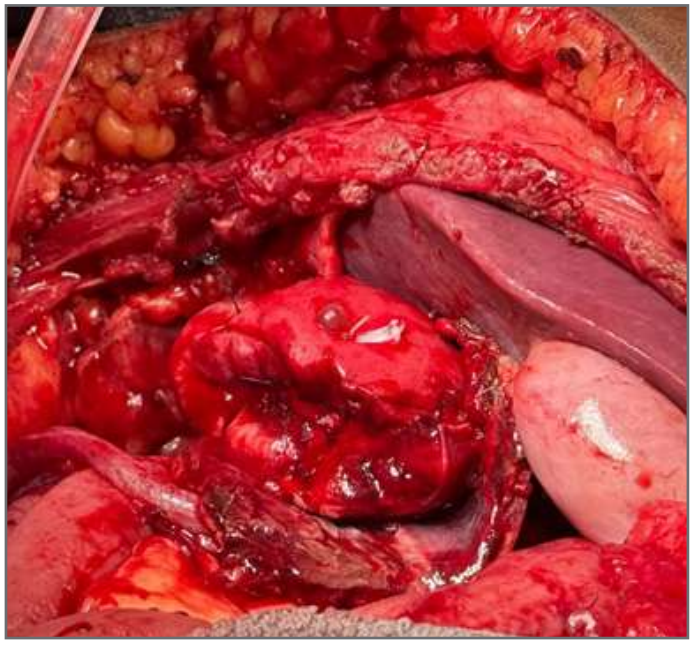
Right renal angiogram before embolisation

Angiogram post embolisation

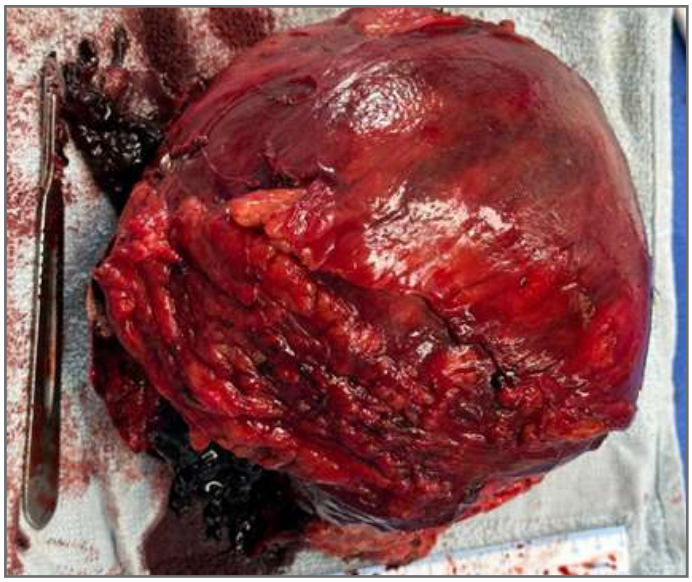
Following embolisation, the patient underwent exploratory laparotomy the next morning. Intraoperatively, a large tumour arising from the right kidney was identified. Right retrograde pyelogram and ureteric catheterisation were performed before dissection.

Intraoperative photos showing large tumour

An open partial nephrectomy was carried out, excising the tumour with a 1 cm parenchymal margin. The pelvicalyceal system was closed, and double-layered renorrhaphy was done to restore renal integrity. The total blood loss was minimal (approximately 150 cc), and the surgery proceeded without complications.



Remaining kidney after partial nephrectomy



Surgical specimen of the large tumour

The postoperative course was uneventful. The patient's haemoglobin improved to 10 g/dl, and renal function remained stable. She was discharged on the fifth postoperative day in good condition. At one-month follow-up, she was asymptomatic, with normal wound healing and renal parameters (Hb 10.3 g/dl, serum creatinine 0.7 mg/dl).

Conclusion

Angiomyolipoma is the most common benign renal tumour, often detected incidentally. While small, asymptomatic lesions (<4 cm) may be observed, larger tumours carry a significant risk of haemorrhage.

Super-selective renal artery embolisation plays a critical role in preoperative stabilisation, controlling bleeding and reducing intraoperative blood loss. Performing surgery within 24 hours of embolisation ensures optimal outcomes.

In this case, timely decision-making and coordinated multidisciplinary management helped save both the life and kidney of the patient, highlighting the expertise of Medanta – Gurugram's urology and interventional radiology teams in managing complex renal emergencies.

Dr. Narmada P. Gupta
Professor Emeritus - Urology
Medanta - Gurugram

Dr. Abhijeet Jha
Associate Consultant - Urology
Medanta - Gurugram

Expert Insights

Breathing Beyond Inhalers

Expanding Horizons in COPD Care

Chronic obstructive pulmonary disease (COPD) continues to be a major cause of illness and death worldwide. While inhalers remain the cornerstone of therapy, COPD care today goes far beyond medication. A holistic, multidisciplinary approach that addresses the physical, functional, and structural aspects of the lungs can significantly improve outcomes and quality of life.

Pulmonary Rehabilitation

Pulmonary rehabilitation is a comprehensive, supervised programme for patients with chronic lung disease and remains one of the most effective non-pharmacological interventions. Its goals are to reduce breathlessness, improve exercise capacity and physical fitness, teach self-management techniques, and enhance overall quality of life. It also helps to reduce the frequency and severity of hospitalisations and mortality.

The programme brings together doctors, nurses, physiotherapists, respiratory therapists, and dieticians. Exercise training forms the core and includes:

- Aerobic (endurance) training: arm ergometry, treadmill walking, stair climbing, or cycling.
- Strength and resistance training: use of light weights or resistance bands to build muscle strength.
- Respiratory muscle training: diaphragmatic and pursed lip breathing exercises.

These help patients perform daily activities comfortably at home, work, or during leisure.

Lower limb aerobic exercise

Upper limb aerobic exercise

Strengthening weights (1.5–2 kg)

Education is an important part of rehabilitation and covers inhaler technique, nutrition, vaccination, oxygen therapy, non-invasive ventilation (NIV), and self-management plans. Counselling and support groups help address anxiety and emotional wellbeing.

A typical programme may be hospital-, clinic-, or home-based (including tele-consultations). Sessions begin with inhaler use about 15 minutes before exercise, followed by checks of blood pressure, pulse, oxygen saturation, and symptoms. After a five-minute warm-up, patients progress through aerobic exercises over three weeks, gradually increasing duration from 5–10 minutes to 30–45 minutes at moderate intensity (Borg scale 3–4/10) and target heart rate. Strength training (biceps curls, leg press, sit-to-stand) and cool-down stretches complete each session. The regimen is individualised and performed two to three times a week.

Endobronchial Valve Therapy

This bronchoscopic procedure places one-way valves in selected lung segments, allowing trapped air to escape and causing atelectasis in hyperinflated regions. The resulting reduction in lung volume helps the healthier parts expand, improving breathing mechanics and exercise capacity.

It is most effective in patients with severe heterogeneous emphysema who have complete fissures and no collateral ventilation on HRCT. Valves are chosen based on balloon occlusion testing to ensure a proper seal, usually 3–4 valves for upper lobes and 5–7 for lower lobes.

Indications: Severe emphysema (heterogeneous, no collateral ventilation); FEV_1 <50%; TLC >100%; RV >50%

Benefits: Reduced breathlessness, improved FEV_1, and increased six-minute walk distance (6MWD).

Complications: Exacerbations, pneumothorax, pneumonia, haemoptysis, and valve migration.

Clinical evidence:

EBV trial	Primary result
LIBERATE	FEV_1 +17.1%; 6MWD +39.3 m
TRANSFORM	FEV_1 +21.8%; 6MWD +78.7 m
BeRT (2022)	FEV_1 +16.2%; SGRQ −8.5
EMPROVE	Confirmed LIBERATE results

Endobronchial Coils

Pre-shaped nitinol coils (50–200 mm) are inserted into the airways that supply damaged lung tissue. Once released, they recoil and compress the diseased area, creating space for healthier tissue to expand. This technique benefits patients with severe emphysema.

Indications: Severe emphysema (homogeneous, heterogeneous); FEV_1 <50%; TLC >100%; RV >150% predicted

Complications: Exacerbation, pneumothorax, pneumonia, haemoptysis, and irreversible changes.

Trial data: Durability up to three years with sustained improvement in FEV_1 and SGRQ scores.

Clinical evidence:

Coil trial	Intervention	Primary result
RENEW (2016, n=315)	10–14 coils, single upper lobe (2 procedures)	6MWD +10.3 m; QOL −7.6; FEV_1 +0.05 L
RESET (n=47)	–	6MWD +60 m; SGRQ −12; FEV_1 +0.11 L vs −0.07 at 6 months

Cryospray Ablation (Bronchial Cryotherapy)

This minimally invasive therapy uses cold liquid nitrogen (–60°C for 30-60secs) sprayed through a flexible catheter to destroy abnormal airway mucosa. The freeze–thaw cycles cause controlled cell death, after which healthy tissue regenerates. It is especially effective in patients with the chronic bronchitis phenotype, characterised by mucus gland hypertrophy, chronic cough, and frequent exacerbations. The treatment can be repeated across multiple lobes.

Indications: COPD - chronic bronchitis phenotype

Complications: Transient airway inflammation, mucus impaction, bleeding, exacerbations, and rarely, airway stricture.

Clinical systems and trials: The Rejuven-Air system and SPRAY-CB trials have shown improved symptoms, fewer exacerbations, and better quality of life.

Targeted Lung Denervation (TLD)

This bronchoscopic procedure uses radiofrequency energy to disrupt parasympathetic nerves along the main bronchi, producing an anticholinergic effect. It is performed under general anaesthesia using a basket-tipped catheter that applies controlled heat to the airway wall without causing tissue damage. TLD is suitable for patients with moderate to severe COPD who are optimised on medical therapy but unsuitable for valve or coil procedures. It offers long-term benefit in reducing exacerbations and improving quality of life.

Indications: COPD - chronic bronchitis phenotype

Trials: AIRFLOW-2 demonstrated reduced exacerbations, while AIRFLOW-3 (two-year data) showed no significant reduction at the primary endpoint but fewer severe exacerbations.

Possible side effects: Airway injury, exacerbation, cough, and haemoptysis.

Thermal Vapour Ablation

This therapy delivers controlled steam through a balloon catheter to destroy selected areas of diseased tissue in patients with severe heterogeneous emphysema, particularly those with upper-lobe predominant disease. The procedure is performed under general anaesthesia or deep sedation and leads to local inflammation, followed by shrinkage of the treated area over several weeks.

Indications: Severe Emphysema (heterogeneous); FEV_1 <50%; TLC >100%; RV >150%

Outcomes: Reduction in hyperinflation, less breathlessness, and improved exercise capacity and quality of life.

Risks: Haemoptysis, pneumonia, exacerbation, and pneumothorax.

Clinical trials:

Trial	Key findings
STEP-UP (AJRCCM, 2016)	FEV_1 ↑7.0%; improved 6MWD and QOL; sustained for 3 years
EMPROVE	55.6% vs 26.5% QOL improvement; FEV_1 +6.73%; ↓ hyperinflation
REAL-J (real-world data)	FEV_1 ↑340 mL; improved QOL and hyperinflation

Lung Volume Reduction Surgery (LVRS)

Surgical removal of diseased, hyperinflated lung tissue, usually from the upper lobes, can help restore normal mechanics by reducing residual volume and allowing the healthier parts to expand. It is recommended for patients with upper-lobe predominant emphysema, low exercise capacity, FEV_1 greater than 20% predicted, and DLCO greater than 20% of predicted.

Procedure: May involve median sternotomy, thoracotomy, or VATS using stapling reinforced with buttressed material to prevent air leaks, and is usually done bilaterally.

Benefits: Improved exercise capacity, SGRQ scores, and an absolute gain of 8–10% in FEV_1.

Key evidence: NET Trial (RCT, n=1200) showed 30% lower mortality at 2–3 years compared with medical therapy.

Complications: Air leak (40–50%), pneumonia, respiratory failure, arrhythmia, and mortality (2–5%).

Therapy Selection Overview

An integrated, phenotype-based approach helps identify the best intervention for each patient:

- Emphysema dominant:
  - Complete fissures and no collateral ventilation: endobronchial valves
  - Collateral ventilation present: endobronchial coils or thermal vapour ablation
  - Upper-lobe predominant severe disease: lung volume reduction surgery
- Chronic bronchitis phenotype: Cryospray ablation or targeted lung denervation

Conclusion

COPD management is evolving quickly, moving beyond inhalers towards individualised, interventional, and rehabilitative strategies. From pulmonary rehabilitation and endobronchial devices to surgical and ablative therapies, these approaches offer meaningful improvements in lung function, symptom control, and quality of life when selected appropriately for each patient.

Dr. Anand Jaiswal

Senior Director and Head - Respiratory and Sleep Medicine

Medanta - Gurugram

Spotlight

Medanta Indore Launches City's First 5G-Enabled Advanced Life Support Ambulance

Medanta Indore, in collaboration with RED Health, has launched its first 5G-enabled Advanced Life Support (ALS) ambulance, marking a significant leap in emergency medical care.

Equipped with advanced SyncX technology, the ambulance enables real-time transmission of patient vitals to Medanta's Emergency Department within seconds,

allowing specialists to guide treatment even before the patient arrives at the hospital.

This initiative strengthens Medanta Indore's commitment to delivering timely, technology-driven critical care, ensuring faster response and improved outcomes for patients in need of emergency support.

Medanta Introduces UNITY VCS System for Advanced Eye Care

First to Bring "4D" Robotic Cataract Surgery to India

Medanta has taken a major step forward in eye care with the introduction of the UNITY® Vitreoretinal Cataract System (VCS) at Medanta Mediclinic, Defence Colony. The advanced system has been installed under the leadership of Dr. Sudipto Pakrasi, Chairman – Ophthalmology, Medanta, further strengthening the hospital's commitment to precision-driven and patient-centred eye care.

The UNITY VCS system represents a new benchmark in cataract and vitreoretinal surgery. It combines intelligent fluidics, real-time sensing, and advanced robotic control to deliver safer and more efficient outcomes. Its UNITY 4D Phaco technology enables faster nucleus removal with less energy, while the HYPERVIT® 30K Vitrectomy Probe, the world's fastest, ensures exceptional precision with minimal retinal traction. Together, these innovations help surgeons perform safer, quicker procedures and support faster visual recovery for patients.

With the addition of the UNITY VCS system, Medanta continues to set new standards in ophthalmic care, ensuring patients receive the most advanced, safe, and effective treatments available in India.

THE EXCHANGE

Issue 92
November, 2025

Milestones

Medanta Expands to the Northeast with Bhoomi Poojan in Guwahati

Medanta held the Bhoomi Poojan ceremony for its upcoming 400+ bed super-speciality hospital in Guwahati, marking an important step towards bringing advanced healthcare to the Northeast. The event was attended by Hon'ble Chief Minister of Assam, Dr. Himanta Biswa Sarma, Dr. Naresh Trehan, Chairman and Managing Director, Medanta, and Mr. Pankaj Sahni, Group CEO, Medanta.

Located at Sarusajai along NH-27, the new hospital will offer more than 20 super-specialities, including cardiac sciences, neurosciences, oncology, orthopaedics, and organ transplantation, along with advanced robotic surgery, diagnostics, and preventive health services.

The new facility will not only strengthen access to world-class care but also generate new employment opportunities, supporting the overall growth and wellbeing of the region.

"North East India has long been underserved in terms of healthcare access. At Medanta, we believe quality healthcare is a right, not a privilege. This new hospital in Guwahati is a step towards bringing advanced, accessible, and compassionate care to the people of Assam and the entire North East region."

Dr. Naresh Trehan
Chairman and Managing Director
Medanta

Welcome Onboard

Dr. Esha Kaul

Director - Haemato-Oncology and Bone Marrow Transplant

Medanta - Noida

Dr. Kaul specialises in haematology and bone marrow transplantation, with extensive experience in haploidentical and unrelated donor transplants, CAR-T cell therapy, and the management of acute leukaemia, lymphoma, and myeloma. She is also experienced in establishing advanced transplant programmes and delivering complex cellular therapies.

THE EXCHANGE

Issue 92
November, 2025

Dr. Vinay Kumar Sharma

Director - Cardiology

Medanta - Noida

Dr. Sharma specialises in advanced echocardiography and imaging for structural heart disease, with expertise in 3D transoesophageal echocardiography, strain imaging, stress echocardiography, and imaging guidance for surgical and transcatheter interventions.

Dr. Rajeev Ranjan

Director - Critical Care

Medanta - Noida

Dr. Ranjan specialises in critical care and cardiac anaesthesia, with expertise in ECMO, heart transplant perioperative management, and the care of complex adult and paediatric cardiac patients

Dr. Balamurali Srinivasan

Associate Director - Cardiothoracic Surgery

Medanta - Ranchi

Dr. Srinivasan is an expert in advanced cardiothoracic procedures, including thoracic aortic surgeries, arterial grafts in CABG, redo cardiac operations, VATS, ECMO management, and minimally invasive cardiac surgeries.

Dr. Rahul Gupta

Associate Director - Urology

Medanta - Noida

Dr. Gupta is an expert in renal transplantation, robotic uro-oncology, and reconstructive urology, with over 17 years of experience. He has performed more than 600 successful renal transplants and is known for his proficiency in complex urological surgeries and minimally invasive techniques.

Dr. Pranjil Mandloi

Consultant - Medical Oncology

Medanta - Indore

Dr. Mandloi specialises in the treatment of solid and haematological cancers. His expertise includes chemotherapy, immunotherapy, and targeted therapy.

Dr. Avanish Jha

Consultant - Clinical Immunology and Rheumatology

Medanta - Ranchi

Dr. Jha specialises in diagnosing and managing complex autoimmune and rheumatic disorders such as rheumatoid arthritis, lupus, vasculitis, and gout.

Dr. Rakesh Kumar

Consultant - Emergency Medicine

Medanta - Patna

Dr. Kumar specialises in emergency and trauma care, critical patient resuscitation, and the management of acute cardiac and neurological emergencies, with expertise in airway management and disaster response

Dr. Karan Aggarwal

Consultant - ENT, Cochlear Implant and Skull Base Surgery

Medanta - Noida

Dr. Aggarwal specialises in cochlear implantation, advanced rhinology, skull base surgery, and voice and airway procedures, with expertise in complex neuro-otology and head-neck cases.

THE EXCHANGE

Issue 92
November, 2025

Dr. Kritika Agrawal

Consultant - Anaesthesia

Medanta - Noida

Dr. Agrawal specialises in general, regional, and non-operating room anaesthesia, with extensive experience across perioperative and critical care management.

Dr. Megha Rani

Associate Consultant - Dental Sciences

Medanta - Patna

Dr. Rani specialises in restorative dentistry and endodontics, with expertise in complex root canal treatments, smile designing, aesthetic restorations, paediatric dentistry, and full mouth rehabilitation.

Dr. Vikrant Sharma

Consultant - Neurosurgery

Medanta - Lucknow

Dr. Sharma specialises in neuroendoscopy, functional and epilepsy surgery, skull base neurosurgery, and the management of traumatic brain, spine, and stroke-related emergencies.

Dr. Navin Nayan

Associate Consultant - Medical Oncology

Medanta - Patna

Dr. Nayan specialises in chemotherapy, immunotherapy, targeted therapy, and bone marrow transplantation for adult and paediatric cancers, with expertise in palliative care.

Dr. Arvind Tiwari

Consultant - Cardiology

Medanta- Noida

Dr. Tiwari specialises in clinical and preventive cardiology, non-invasive cardiology, cardiac critical care, and cardiovascular risk management, with expertise in lifestyle medicine and integrated cardiac care.

Dr. Sumair Emadul Haque

Associate Consultant - Interventional Radiology

Medanta - Patna

Dr. Haque specialises in neuro and vascular interventions, including stroke management, endovascular coiling, AVM embolisation, and onco-interventions.

Dr. Shagun Walia

Consultant - Paediatric Endocrinology

Medanta - Noida

Dr. Walia specialises in paediatric endocrine disorders, including growth, puberty, diabetes, thyroid, adrenal, and metabolic conditions, with expertise in advanced hormonal diagnostics and management.

Dr. Vimmi Gautam

Associate Consultant - Head and Neck Oncology

Medanta - Noida

Dr. Gautam specialises in surgical management of head and neck cancers, including oral, thyroid, laryngeal, sinonasal, and salivary gland malignancies, with expertise in transoral laser microsurgeries and advanced oncological procedures.

THE EXCHANGE

Issue 92
November, 2025

Dr. Wasim Zafar
Associate Consultant - Critical Care
Medanta - Noida

Dr. Zafar specialises in critical care, including ARDS, septic shock, multiorgan dysfunction, advanced airway management, and infection control.

IN CASE OF **EMERGENCY** DIAL **1068**

Medanta Network

Hospitals

Medanta - Gurugram
Sector - 38, Gurugram, Haryana | Tel: 0124 4141 414 | info@medanta.org

Medanta - Lucknow
Sector - A, Pocket - 1, Sushant Golf City, Amar Shaheed Path, Lucknow I Tel: 0522 4505 050

Medanta - Patna
Jay Prabha Medanta Super-Speciality Hospital, Kankarbagh Main Road, Kankarbagh Colony, Patna Tel: 0612 350 5050

Medanta - Ranchi
Medanta Abdur Razzaque Ansari Memorial Weavers', P.O. Irba, P.S. Ormanjhi, Ranchi | Tel: 1800 891 3100

Medanta - Hospital, Ranchi
NH 33, P.O. Irba, P.S. Ormanjhi, Ranchi | Tel: 1800 891 3100

Medanta - Indore
Plot No. 8, PU4, Scheme No. 54, Vijaynagar Square, AB Road, Indore I Tel: 0731 4747 000

Medanta - Noida
Plot No. F-16, Block-F, Sector 50, Noida, Gautam Budhha Nagar, U.P. I Tel: 0120 3141 414

Mediclinics

Defence Colony
E - 18, Defence Colony, New Delhi | Tel: 011 4411 4411

Cybercity
UG 15/16, DLF Building 10 C, DLF Cyber City, Phase II, Gurugram I Tel: 0124 4141 472

Subhash Chowk
Plot No. 743P, Sector - 38, Subhash Chowk, Gurugram I Tel: 0124 4834 547

Cyber Park
Shop No. 16 and 17, Tower B, Ground Floor, DLF Cyber Park, Plot No. 405B, Sector-20, Udyog Vihar, Gurugram I Tel: 93541 41472

Golf Course Road
562 SP, Sector 27, Golf Course Road, Gurugram I Tel: 0124 6930 099

Ranchi
Shah Corporate, Kutchary Road, Opp. Atal Smriti Vendor Market, Ranchi I Tel: 1800 891 3100

Medanta Helpline: 88-0000-1068

medanta.org