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Clinical Innovations | New Milestones | Better Outcomes

Cover Feature

Managing Dual Aneurysms in High-Grade Subarachnoid Haemorrhage

An Endovascular Approach in Modified Fischer Grade 4 SAH

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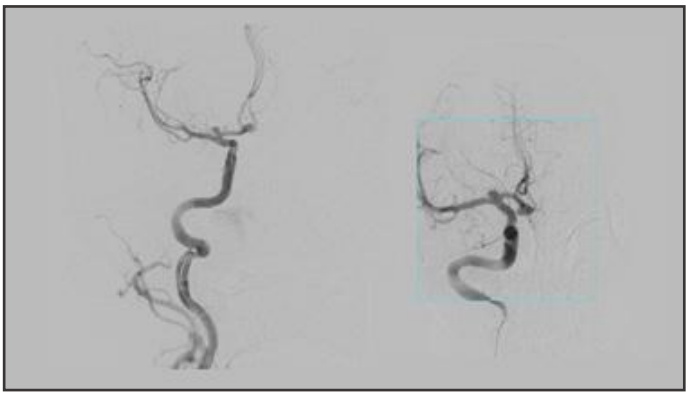
Feature Story
Medanta - Patna

Endovascular Management of Dual Aneurysms in Modified Fischer Grade 4 SAH

Aneurysmal subarachnoid haemorrhage (SAH) is a life-threatening condition associated with high morbidity and mortality. Modified Fischer Grade 4 SAH, characterised by extensive cisternal haemorrhage with intraventricular extension, carries an increased risk of raised intracranial pressure, hydrocephalus and delayed cerebral ischaemia. In patients with more than one aneurysm, early securement is essential. Endovascular treatment offers the advantage of addressing multiple aneurysms in a single session while avoiding the physiological burden of craniotomy.

Case Study

A 38-year-old male presented with sudden, severe headache followed by a rapid decline in consciousness. On arrival, his Glasgow Coma Scale score was E1 M5 Vt with left-sided weakness. Both pupils were equal and reactive. CT imaging demonstrated dense subarachnoid haemorrhage with intraventricular and intracerebral extension, consistent with Modified Fischer Grade 4 SAH.



Right ICA bifurcation aneurysm and acom aneurysm

Digital subtraction angiography identified two aneurysms: one arising from the anterior communicating artery and another at the bifurcation of the right internal carotid artery (ICA). The right ICA was markedly tortuous, posing additional challenges for endovascular navigation.

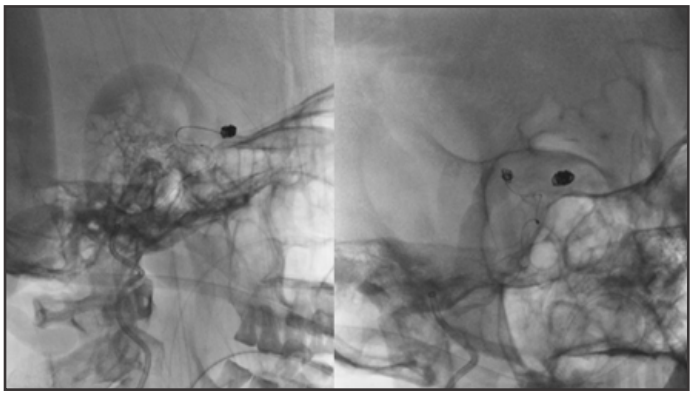
Treatment Approach

Given the dual aneurysms and the high-grade SAH, endovascular coiling was chosen as the safest strategy. This approach allowed both aneurysms to be secured during the same procedure while avoiding open surgery in a physiologically unstable patient.

Because of the tortuous right ICA, a triaxial catheter system was used to maintain stability throughout the intervention. The anterior communicating artery aneurysm was coiled first, followed by the ICA bifurcation aneurysm. Post-procedure angiography confirmed complete occlusion of both lesions.

Post-Procedure Neurocritical Care

Further, the patient was managed in the neurosurgical ICU with close monitoring of intracranial pressure. An external ventricular drain was inserted for CSF diversion and ICP control. Vasospasm prophylaxis included nimodipine and milrinone, alongside ventilatory and haemodynamic support. Once intracranial pressure stabilised, the external ventricular drain was removed. The patient showed gradual neurological improvement, reaching a GCS of E4 M6 Vt, after which he was transferred to the ward.



Coiling of acom aneurysm followed by coiling of right ICA bifurcation aneurysm

Outcome

At discharge, the patient was stable with no new neurological deficits. His neurological status continued to improve, and follow-up vascular imaging was planned to assess long-term aneurysm occlusion and cerebrovascular reactivity.

Discussion

This case demonstrates the value of an endovascular approach in managing complex aneurysms in high-grade SAH. Treating both aneurysms in a single session avoided the risks associated with craniotomy and was particularly appropriate given the challenging vascular anatomy.

Post coiling DSA shows no aneurysm filling

The combination of precise endovascular technique, adequate catheter support and comprehensive neurocritical care contributed to the favourable outcome. Effective management of intracranial pressure, vasospasm prevention and careful monitoring were central to his recovery.

Conclusion

Endovascular coiling, combined with meticulous neurocritical care, provided a safe and effective treatment pathway for dual aneurysms in Modified Fischer Grade 4 SAH. This case reinforces the importance of a coordinated, multidisciplinary approach in the management of complex neurovascular emergencies.

Dr. Shishir Kumar

Consultant - Interventional Neurology and Neurosurgery

Medanta - Patna

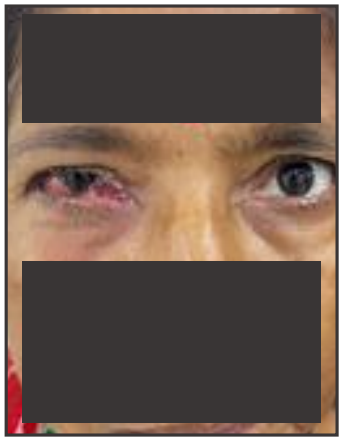
Case Study

Medanta - Gurugram

Successful Management of Maxillofacial Trauma with Foreign Body and Orbital Floor Fracture

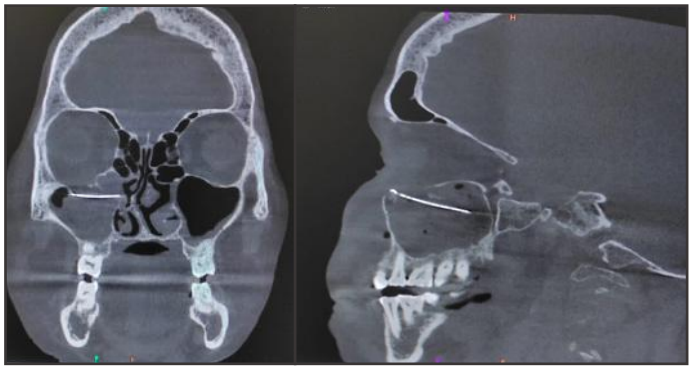
A 48-year-old female patient presented to the Dental OPD at Medanta – Gurugram with swelling on the right side of her face, severe trismus, and a history of facial trauma following a fall in which her face struck a brick. She had received initial treatment at a primary care centre; however, her trismus progressively worsened, prompting her to seek specialised care at Medanta.

Clinical Presentation and Diagnosis



Pre-op clinical image of the patient

On examination, the patient had marked facial swelling and restricted mouth opening. A CT scan revealed a significant foreign body in situ in the right maxillary region, accompanied by a fracture of the orbital floor. Imaging confirmed the presence of a 7 cm wooden tubular foreign object lodged infraorbitally on the right side, causing soft tissue compromise and bony disruption.



Preoperative CT Scan

Treatment and Surgical Intervention

The patient was admitted for definitive surgical management. Under general anaesthesia, the Oral and Maxillofacial Surgery team, performed an intricate surgical procedure to retrieve the foreign object. Careful dissection enabled the complete removal of the wooden fragment from the infraorbital space. The surgical site was thoroughly debrided and irrigated with copious amounts of povidone–iodine solution to ensure optimal infection control.

Simultaneously, the ENT team carried out functional endoscopic sinus surgery (FESS) to facilitate extensive lavage and clearance of debris through a maxillary antrostomy. This ensured restoration of sinus drainage and minimised the risk of chronic sinus pathology.

Intraoperative image

Foreign body

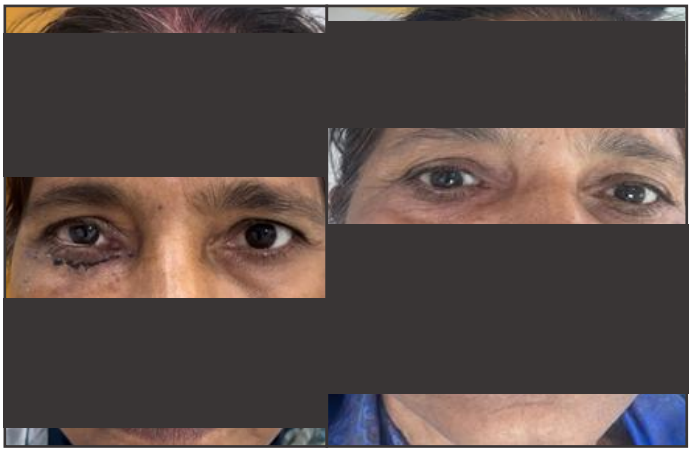
Postoperative Outcome

The patient made an uneventful recovery and was discharged with preserved visual acuity, stable vitals, and no neurological deficits.

At the seven-day postoperative review, she showed:

- Marked reduction in facial swelling
- Complete relief of trismus and restoration of mandibular function
- Intact and normal vision
- No signs of infection or complications

Postoperative CT scan



Postoperative image of the patient

Patient post recovery

Discussion

This case underscores Medanta's multidisciplinary expertise and swift, precise management of complex maxillofacial trauma. The collaborative effort between the Oral and Maxillofacial Surgery and ENT teams ensured complete recovery, employing advanced techniques such as foreign body retrieval and sinus surgery.

Conclusion

Maxillofacial trauma involving foreign body impaction and orbital floor injury demands highly skilled surgical intervention and coordinated multidisciplinary care. The successful management of this challenging case at Medanta – Gurugram highlights the hospital's clinical excellence, robust infrastructure, and patient-centric approach.

Dr. Ankur Rustagi

Senior Consultant - Oral and Maxillofacial Surgery

Medanta - Gurugram

Case Study
Medanta - Lucknow

Emergency Rigid Bronchoscopy for Airway Foreign Body

Acute Paediatric Airway Obstruction Managed Overnight

Foreign body aspiration is a common cause of acute airway obstruction in young children, particularly those under three years of age. Organic foreign bodies such as peanuts pose a significant risk due to their size, tendency to fragment and potential to cause airway inflammation. Early recognition and timely bronchoscopic intervention are critical to prevent hypoxia and other serious complications.

Case Study

A 2-year-old female child was referred to the emergency department of Mednata – Lucknow at 3:00 AM with sudden onset respiratory distress. The caregivers reported a clear history of choking while the child was playing, followed by noisy breathing and increasing difficulty in respiration. There was no prior history of respiratory illness.

On examination, the child was tachypnoeic and in respiratory distress, with use of accessory muscles. Biphasic stridor was noted, and auscultation revealed reduced air entry on one side of the chest. The clinical findings raised a strong suspicion of foreign body aspiration.

CT chest showing bronchial obstruction consistent with an aspirated foreign body (marked)

Clinical Assessment and Diagnosis

Based on the history of a choking episode and the clinical signs of airway compromise, a diagnosis of bronchial foreign body aspiration was made. After initial stabilisation in the emergency department, the child was transferred urgently to the operation theatre for definitive airway management.

Management

Emergency rigid bronchoscopy was performed under general anaesthesia using paediatric bronchoscopic equipment. Bronchoscopic examination revealed a peanut lodged within the bronchus, resulting in partial airway obstruction. The foreign body was carefully retrieved using appropriate bronchoscopic instruments. The airway was subsequently inspected to ensure complete removal and to exclude any residual fragments or mucosal injury. The procedure was completed without complications.

Outcome

Following removal of the foreign body, the child showed immediate clinical improvement. Respiratory distress resolved, stridor subsided and oxygen saturation remained stable. The postoperative course was uneventful, and the child continued to recover well under observation.

Clinical Insight

This case highlights the importance of early clinical recognition of foreign body aspiration in toddlers presenting with sudden respiratory symptoms. Prompt intervention, availability of paediatric rigid bronchoscopy

and effective coordination of emergency care are essential for safe airway management and favourable outcomes, particularly during night-time emergency presentations.

Rigid bronchoscopy being performed under general anaesthesia

Multiple fragments of peanut retrieved following bronchoscopic foreign body removal

Dr. Shyamendra Pratap Sharma

Senior Consultant - Paediatric Surgery and Robotic Surgery

Medanta - Lucknow

Spotlight

Bronchoscopic view showing peanut foreign body lodged in the bronchus, causing partial airway obstruction

Intraoperative bronchoscopic image demonstrating grasping of the peanut foreign body during rigid bronchoscopy

Vertigo Lab at Medanta Gurugram

A Specialised Facility for Advanced Vestibular Evaluation and Diagnosis

Medanta - Gurugram offers a dedicated vertigo lab for comprehensive evaluation of patients presenting with vertigo, dizziness, and balance disorders.

The lab is equipped to perform advanced vertigo profile testing, supporting accurate localisation and diagnosis of peripheral and central vestibular dysfunction, and aiding targeted clinical decision-making.

Diagnostic modalities available include:

- Videonystagmography
- Subjective visual vertical
- Dynamic visual acuity
- Caloric testing

These assessments enable objective evaluation of vestibulo-ocular and vestibulo-spinal function, facilitating multidisciplinary management of balance disorders.

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TechByte
Medanta - Gurugram

Repetitive Transcranial Magnetic Stimulation (rTMS)

Expanding Non-Invasive Neuromodulation in Psychiatry

Medanta - Gurugram has introduced Repetitive Transcranial Magnetic Stimulation (rTMS) as part of its comprehensive psychiatric and neurosciences services. Medanta Gurugram is among the few centres in Gurugram offering this modern, non-invasive treatment for obsessive–compulsive disorder, depression, and anxiety disorders. rTMS is a non-invasive neuromodulation technique with an established evidence base, offering a therapeutic alternative for patients with select psychiatric disorders who demonstrate suboptimal response or intolerance to standard treatments.

rTMS involves the application of repetitive magnetic pulses to targeted cortical regions implicated in mood regulation, executive function, and emotional processing. These magnetic fields induce focal electrical currents that modulate neuronal excitability and synaptic plasticity, thereby influencing dysfunctional neural circuits associated with psychiatric illness. The procedure is performed in an outpatient setting, without anaesthesia, and allows patients to remain fully conscious throughout treatment.

Clinical Indications

From a clinical perspective, rTMS has demonstrated benefit in a range of psychiatric conditions, most notably:

- Major depressive disorder, particularly in treatment-resistant cases
- Obsessive–compulsive disorder, as an adjunctive intervention
- Anxiety disorders with persistent functional impairment

It is increasingly considered within structured treatment pathways where pharmacotherapy and psychotherapy alone have not achieved adequate symptom control.

Treatment Protocol and Delivery

A typical rTMS session lasts approximately 20–30 minutes, during which a magnetic coil is positioned over predefined scalp locations using validated targeting protocols. Treatment is generally administered five sessions per week over several weeks, with parameters individualised based on diagnosis and clinical response.

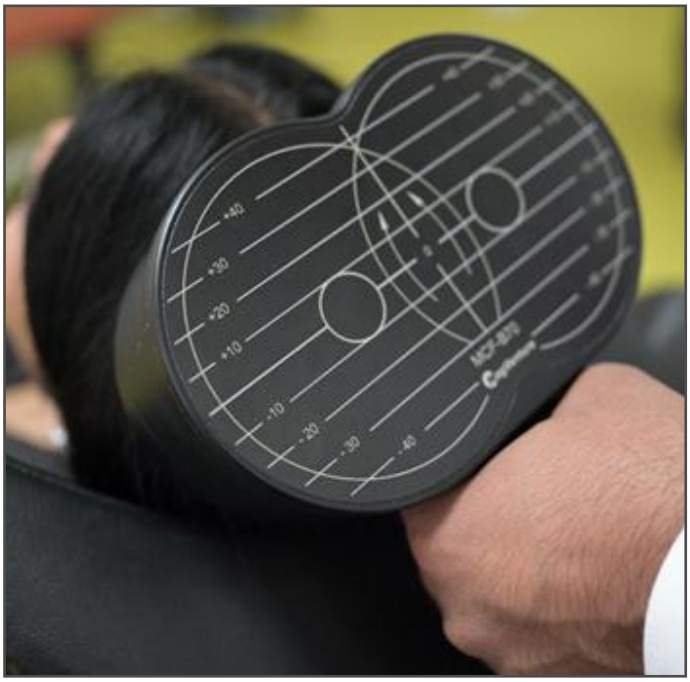
As rTMS does not involve systemic drug exposure or sedation, patients can resume routine activities immediately after each session, supporting adherence and continuity of care.

Safety and Tolerability

rTMS is associated with a favourable safety profile. Transient scalp discomfort or mild headache may occur, particularly during initial sessions, but serious adverse events are uncommon. Importantly, rTMS is not associated with cognitive or memory impairment and can be safely combined with ongoing pharmacological and psychotherapeutic interventions.

Clinical Significance

The availability of rTMS at Medanta Gurugram enhances the armamentarium for managing complex psychiatric presentations, particularly in patients with treatment resistance or medication-related limitations. Its integration reflects a move towards circuit-based, precision-oriented psychiatric care within a multidisciplinary framework.



When to Consider rTMS

rTMS may be considered in patients who:

- Have failed to achieve adequate response after multiple trials of antidepressant medication
- Experience dose-limiting adverse effects with pharmacotherapy
- Require a non-systemic, non-invasive treatment option
- Have persistent symptoms despite structured psychotherapy
- Are suitable for outpatient, protocol-driven neuromodulation therapy

Ocular Brachytherapy

Advancing Eye Tumour Management at Medanta Gurugram

Medanta - Gurugram has introduced ocular brachytherapy for the management of selected intraocular tumours. This modality enables localised radiation delivery with minimal exposure to surrounding ocular structures.

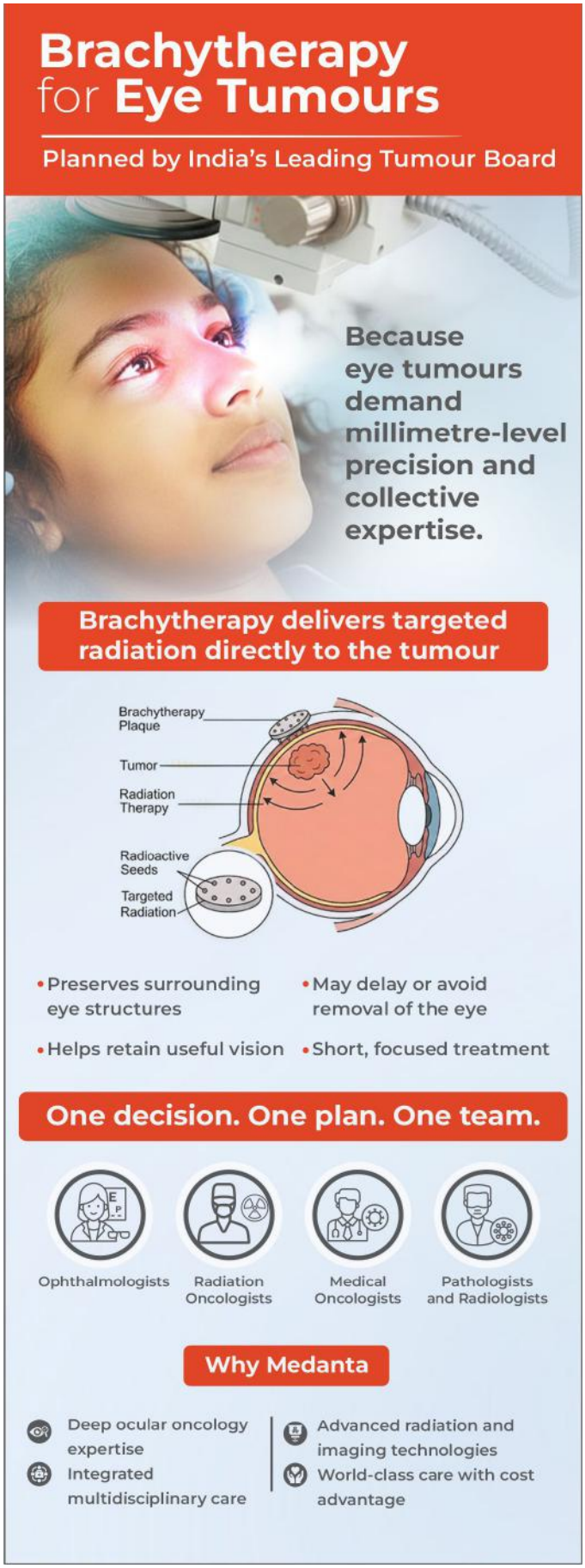
Treatment selection is based on tumour type, size, location, and visual prognosis. In appropriate cases, ocular brachytherapy allows effective local tumour control while preserving the globe.

Key clinical features:

- Temporary radioactive plaque placement adjacent to the tumour
- Individualised dose and duration planning by a multidisciplinary team
- Organ-preserving approach in suitable patients
- Requires structured long-term follow-up for tumour control and visual outcomes

Care is delivered through a coordinated team involving ophthalmology, radiation oncology, medical oncology, radiology, pathology, and medical physics.

This addition strengthens Medanta's ocular oncology services and expands treatment options for anatomically and functionally complex eye tumours.



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Milestones

Kudos

Oncologist of the Year

Dr. Tejinder Kataria

Chairperson
Radiation Oncology
Medanta - Gurugram

Dr. Kataria was conferred the Oncologist of the Year award at the 7th edition of the Cancer Summit and Awards, organised by the Integrated Health and Wellbeing Council in New Delhi.
The award recognises her sustained contributions to radiation oncology, clinical excellence and leadership in advancing comprehensive cancer care.

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Welcome Onboard

Dr. Nigam Prakash Narain

Director - Paediatrics

Medanta - Patna

Dr. Narain is a veteran paediatrician with over four decades of experience in child and newborn care, neonatology, infectious diseases and preventive paediatrics. He has also contributed to protocols for managing acute encephalopathy syndrome and paediatric intensive care.

Dr. Nishant Tyagi

Director - Interventional Cardiology

Medanta - Noida

Dr. Tyagi specialises in the management of coronary artery disease, complex cardiac emergencies and other heart conditions. He has extensive experience in advanced interventional procedures including coronary angiography, angioplasty and pacemaker/AICD implantation.

Dr. Meena Samant

Director - Obstetrics and Gynaecology

Medanta - Patna

Dr. Samant is a senior obstetrician and gynaecologist with over three decades of clinical experience. She specialises in high-risk obstetrics, advanced gynaecological surgery, and comprehensive women's healthcare, with expertise in managing complex obstetric conditions and performing advanced laparoscopic and robotic gynaecological procedures

Dr. Sunil Singla

Associate Director - Neurology

Medanta - Gurugram

Dr. Singla is a senior neurologist with over 15 years of experience in managing complex neurological disorders. His key areas of expertise include stroke care, epilepsy, neuromuscular disorders and neurocritical care, with a strong focus on patient-centric, evidence-based treatment.

Dr. Pawan Kirtani

Associate Director - Histopathology

Medanta - Noida

Dr. Kirtani specialises in surgical pathology and oncopathology, with expertise in soft tissue tumour diagnosis, immunohistochemistry and immuno-oncology, supported by over 17 years of experience in histopathology.

Dr. Ankit Singh

Associate Director - Interventional Cardiology

Medanta - Lucknow

Dr. Singh specialises in cardiac electrophysiology and the management of complex arrhythmias. He has expertise in electrophysiology studies, radiofrequency ablation, device implantation and coronary interventions.

Dr. Syed Nazaneen

Senior Consultant - Obstetrics and Gynaecology

Medanta - Patna

Dr. Nazaneen specialises in high-risk pregnancy care and the management of gynaecological conditions such as PCOS, fibroids and endometriosis, with expertise in advanced laparoscopic procedures.

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Dr. Anoop Kumar Singh

Senior Consultant - Interventional Cardiology

Medanta - Lucknow

Dr. Singh specialises in the management of coronary artery disease and other cardiac conditions, with expertise in interventional procedures including angiography and angioplasty.

Dr. Akansha Bajpai

Consultant - Surgical Oncology

Medanta - Patna

Dr. Bajpai specialises in surgical oncology, with expertise in breast, gastrointestinal, gynaecological, head and neck and soft-tissue cancers, and is skilled in both open and minimally invasive cancer surgery.

Dr. Girijanand Jha

Consultant - Paediatric Intensive Care Unit

Medanta - Patna

Dr. Jha specialises in the care of newborns and children, with expertise in paediatric infections, growth and developmental disorders and preventive child health.

Dr. Praveen Kumar Kotwani

Consultant - Internal Medicine

Medanta - Gurugram

Dr. Kotwani specialises in preventive and occupational health, advanced adult medicine, and the management of acute and chronic medical conditions.

Dr. Rahul Chauda

Consultant - Endocrinology and Diabetes

Medanta - Indore

Dr. Chauda specialises in the management of diabetes and endocrine disorders, including thyroid, pituitary and adrenal conditions. He also has expertise in treating obesity, PCOD and osteoporosi.

Dr. Surabhi Sapna

Associate Consultant - Obstetrics and Gynaecology

Medanta - Patna

Dr. Sapna specialises in obstetric and gynaecological care, including high-risk pregnancies, PCOS, menstrual disorders and minimally invasive gynaecological surgery.

Dr. Vishal Prakash

Consultant - GI Surgery

Medanta - Ranchi

Dr. Prakash specialises in hepatopancreatobiliary and gastrointestinal oncosurgery, with expertise in advanced laparoscopic, robotic and trauma abdominal surgery.

Dr. Sumedha Gupta

Associate Consultant - Gynaecology and Gynae-oncology

Medanta - Gurugram

Dr Gupta specialises in the management of gynaecological cancers and complex gynaecological conditions, with expertise in cervical premalignant lesions and minimally invasive care.

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Dr. Anjum Chaudhary

Consultant - Dental Sciences

Medanta - Noida

Dr. Chaudhary specialises in conservative and endodontic dentistry, with expertise in primary and complex root canal treatments, re-treatments and restorative dental care.

Dr. Shachi Bhanuda

Associate Consultant - Neonatology

Medanta - Gurugram

Dr. Bhanuda specialises in the care of critically ill and high-risk newborns, with expertise in neonatal intensive care, advanced ventilation and neonatal emergencies.

Dr. Sukriti Kumari

Associate Consultant - Obstetrics and Gynaecology

Medanta - Patna

Dr. Kumari specialises in routine and high-risk maternity care and the management of gynaecological conditions such as PCOS, fibroids and menstrual disorders.

Dr. Ruhina Syeda

Associate Consultant - Paediatrics

Medanta - Gurugram

Dr. Syeda specialises in neonatology, with expertise in neonatal and paediatric intensive care, immunisation and outpatient services.

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
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Medanta - Indore
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Medanta - Noida
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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

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