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ROYAL CARE HOSPITALS

making life better

- **Editor & Publisher**

Dr. K. Madeswaran

Chairman - Consultant Neuro & Spine Surgeon

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CHAIRMAN'S COLUMN

As we present another edition of the Royal Care Newsletter, I take immense pride in reflecting upon the remarkable milestones our institution continues to achieve in the pursuit of clinical excellence, innovation, and compassionate healthcare.

Healthcare today is evolving at an unprecedented pace. At Royal Care, we believe that true progress is not merely measured by advanced technology, but by how meaningfully it transforms patient lives. From the successful integration of India's first Philips Azurion 3.0 Biplane Cathlab configuration to breakthroughs in minimally invasive surgery, neurorehabilitation, and comprehensive nursing excellence, every achievement in this edition represents our unwavering commitment to redefining modern healthcare.

Behind every successful procedure, every recovered patient, and every innovation lies the dedication of our doctors, nurses, technicians, therapists, administrators, and support staff who work tirelessly with compassion and integrity.

I am especially proud of our multidisciplinary approach that combines cutting-edge technology with human-centered care. Whether it is advanced interventional radiology, robotic and laparoscopic surgeries, neuromodulation therapies, or precision oncology, our focus remains steadfast - safer procedures, faster recovery, and better quality of life for our patients.

"Excellence is not an act, but a habit." - Aristotle

As we move forward, our vision is clear: To build a healthcare ecosystem where innovation meets empathy, where technology serves humanity, and where every patient experiences hope, healing, and trust.

I extend my heartfelt gratitude to our patients for their confidence in us, to our consultants and staff for their relentless dedication, and to our well-wishers and community partners for their continued support.

Together, let us continue this journey of healing lives and shaping the future of healthcare.

With warm regards

Dr. K. Madeswaran
Founder Chairman

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From The EDITOR'S DESK

> "Success is the sum of small efforts, repeated day in and day out..."
>
> - Robert Collier

The day looms closer for when we shall open the expanded 1100-bedded super speciality hospital to seamlessly serve the public of this region. The new building shall house many state-of-the-art facilities.

The new Azurian Biplane cathlab was inaugurated by Shri Arun C Bharath, the chief commissioner of income tax in the Coimbatore region, which is the first machine in this country to have cutting-edge technology, which will make interventional radiology work the best in this region, to aid in the diagnosis and treatment of various illnesses.

The 77th Republic Day celebrations were conducted in the hospital, where the nature of healthcare workers was celebrated as warriors of disease and carers of the needy. The new 7-bedded dedicated transplant ICU was also commissioned by the chairman to house post-surgical transplant patients. The hospital incidentally has become the first hospital to get a license for multi-organ transplant, including pancreas and small bowel.

As always, we are committed to the dissemination of knowledge, and there were many CME programs conducted by the team, and our doctors delivered medical lectures for the benefit of general practitioners and specialists.

The Daisy Award program and townhouse program are small but effective nursing programs to ensure better training and encouragement for the nurses, and thereby directly benefit the patient. We have articles on interventional radiology, colorectal surgery, rTMS, and stereotactic radiosurgery.

We welcome the new team of consultants who have joined the ever-growing Royal Care Hospital medical fraternity and wish them success in their endeavors.

A New Era in
Interventional Radiology
Philips Azurion 3.0
BIPLANE CATHLAB at Royal Care Hospital

We are pleased to present a comprehensive overview of the advanced capabilities of the newly installed Philips Azurion 3.0 Biplane system in our Interventional Radiology (IR) suite. This acquisition marks a historic milestone, as Royal Care Hospital is the first healthcare institution in India to install this specific,

state-of-the-art configuration. This document outlines the unique "edge" features of this technology and the significant advancements it brings to our patient care, clinical outcomes, and operational efficiency.

Advanced Key Features & Clinical Advantages

- **First-in-India Status:** The first installation of this specific high-end configuration in the country, establishing Royal Care as a national leader in interventional care adopting the newer technology in Healthcare.
- **ClarityIQ Radiation Reduction:** Reduces patient and staff radiation exposure by up to 50% while simultaneously improving image quality.
- **On-Table Helical CT (SmartCT):** Provides diagnostic-quality soft tissue imaging directly in the cath lab, eliminating the need to move critical patients for a separate CT scan.
- **3D Vessel Navigation (VesselNavigator):** Fuses pre-operative scans with live X-ray to create a 3D roadmap, reducing contrast use and improving guidewire precision.
- **EmboGuide (Tumor Feeding):** Automatically detects tumor-feeding vessels 39% more than the human eye, leading to more effective cancer treatments.
- **Advanced Neuro Suite :** Features dedicated tools for stroke and aneurysm treatment (SmartCT Vaso, Aneurysm Flow Navigation) for safer brain interventions.
- **Bolus Chase for Peripheral Angio :** Enables step-and-shot imaging that automatically tracks the contrast bolus from the aorta to the foot, ensuring complete runoff studies in a single acquisition.
- **Reduced Contrast in Lower Limbs :** The combination of ClarityIQ and Bolus Chase significantly reduces the volume of contrast dye needed for diabetic and kidney disease patients undergoing limb salvage procedures.
- **Future-Ready Integration:** Compatible with cutting-edge tech like LumiGuide (fiber-optic guidewires) and IVUS for "inside-out" vessel views.
- Philips Remote Service (PRS) in place for proactive monitoring, diagnostics, preventing unexpected downtime for Biplane Cathlab equipment, resolving technical issues remotely without on-site intervention.

New Frontiers in Interventional Radiology

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MD, DNB, EBIR, PDCC.,
Consultant Interventional Radiologist

Dr. Hariharaprakash
MD, DNB, EBIR, EDIR, DICR, DHHM, DMLS, MBA.,
Consultant Interventional Radiologist

We are proud to showcase the clinical impact of our recently commissioned Philips Azurion Biplane Cathlab—a first-of-its-kind installation in India. This state-of-the-art platform isn't just an upgrade in imaging; it is a leap forward in procedural safety and precision.

By utilizing advanced software applications, our Interventional Radiology team is tackling complex vascular pathologies with greater speed and significantly reduced risks. Here are four recent cases that highlight these breakthroughs:

Case 1: Ruptured MCA Bifurcation Aneurysm
Patient: 46-year-old female
Procedure: Endovascular Coiling
Technology: 3D Roadmap Guidance

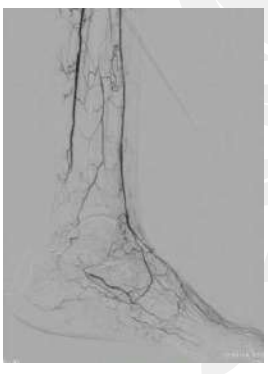
In the high-stakes environment of a ruptured brain aneurysm, every millimeter counts. We utilized **3D Roadmap** technology, which overlays a reconstructed 3D model of the patient's vasculature onto the live fluoroscopy screen.

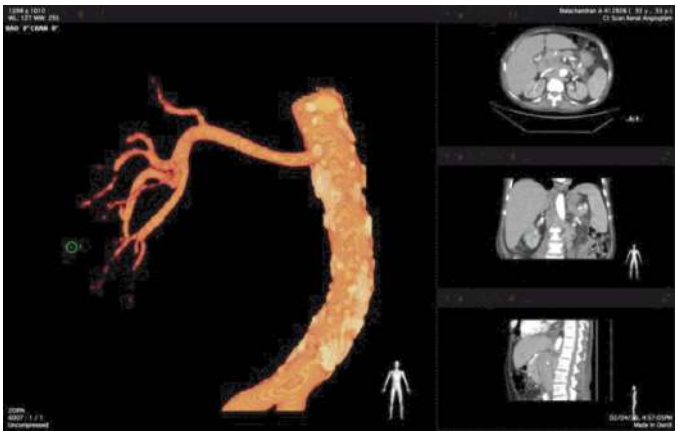
- **The Advantage:** This provided the operator with a real-time, three-dimensional "GPS" to navigate the microcatheter into the aneurysm sac with pinpoint accuracy, drastically reducing the time needed to secure the aneurysm and minimize brain exposure to radiation.

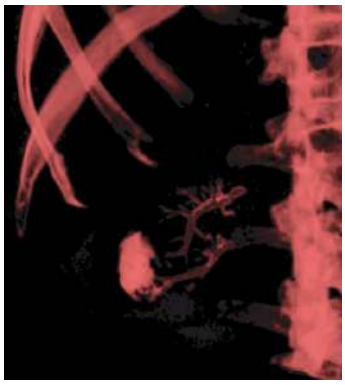
Case 2: Critical Limb Ischemia in a Paraplegic Patient
Patient: 64-year-old with borderline renal function and a non-healing ulcer
Procedure: Lower Limb Angiogram
Technology: Bolus Chase Technique

Managing patients with borderline renal function requires an "ALARA" (As Low As Reasonably Achievable) approach to contrast media to prevent kidney injury.

- **The Advantage:** Using the **Bolus Chase** application, we mapped the entire lower limb vasculature from the pelvis to the toes using only **20ml of contrast.** The system automatically tracks the contrast bolus in real-time, providing a seamless, high-resolution map of the arterial tree while protecting the patient's fragile renal health.







Case 3: Metastatic RCC with Intractable Hematuria

Patient: 73-year-old male

Procedure: Targeted Tumor Embolization

Technology: Vessel Navigator

For this patient, the goal was to stop life-threatening bleeding by cutting off the blood supply to a renal tumor.

- **The Advantage: Vessel Navigator** allows us to fuse previous CT or MRI scans with live X-ray images. This "augmented reality" view simplified the identification of complex, tortuous feeding vessels. We were able to selectively embolize the specific arteries feeding the tumor, successfully stopping the Hematuria while preserving as much healthy tissue as possible.

Case 4: Recurrent Post-Operative Bleeding

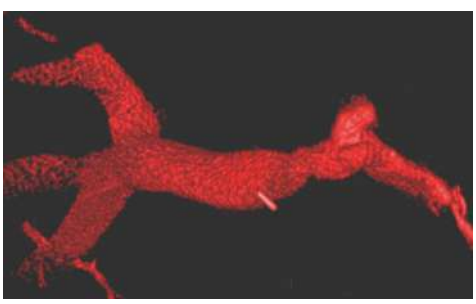
Patient: 46-year-old male with portal vein pseudoaneurysm

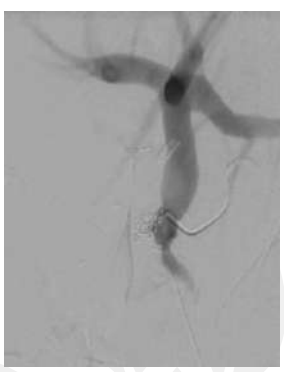
Procedure: 3D Portogram and Embolization

Technology: 3D Portogram & Advanced Vascular Modeling

Diagnosing a pseudoaneurysm deep within the portal system following surgery can be challenging with standard 2D imaging.

- **The Advantage: The 3D Portogram** allowed for a comprehensive rotational scan of the portal venous system. This provided a detailed volumetric view, enabling the team to definitively locate the pseudoaneurysm and treat it endovascularly. This saved the patient from a high-risk surgical re-exploration.





Why This Matters

The integration of the Philips Azurion Biplane at our facility represents a new standard of care in India. For our patients, these "New Applications" translate to:

- ✦ Reduced Contrast Volume: Protecting kidney function.
- ✦ Lower Radiation Doses: Enhanced safety for both patients and staff.
- ✦ Increased Accuracy: Enabling the treatment of complex cases that were previously considered high-risk.

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Complex and Unusual Presentations in Colorectal Surgery : A Case Series of the top Five Successfully Managed Advanced Laparoscopic Procedures at Royal Care Super Speciality Hospital, Coimbatore.

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MBBS(MMC), MS(KEM, Mum), MRCS(UK), DNB - Surg Gastro (AIG, Hyd), FALS-Robotic, Fellowship-Hepatobiliary Surgery(AIG,Hyd), Fellowship-Liver transplant(CLBS,Delhi).,
Consultant - Gastro, Minimally invasive, and Liver transplantation surgery

Dr. A. Sandip Chandrasekar
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Consultant Surgical Gastro, Advanced Laparoscopic, HPB,GI Oncology and Bariatric Surgeon

Background & Introduction:

Minimally invasive colorectal surgery is the standard of care due to improved recovery and outcomes. Complex clinical scenarios—such as delayed presentation, atypical symptoms, or locally advanced disease—pose significant diagnostic and technical challenges.

Traditionally, such cases were considered relative contraindications for laparoscopy due to concerns regarding safety, oncological adequacy, and technical feasibility. However, with advancements in surgical techniques and increasing experience, these boundaries are being redefined.

Our Case series:

We present five patients with rare and complex colorectal conditions out of 22 colorectal surgeries done in the month of January 2026. Perforated diverticulitis in shock, rectal endometriosis, missed rectal cancer, locally advanced splenic flexure cancer, and a para-rectal stromal tumor are described below. All cases were managed laparoscopically despite significant clinical and intraoperative challenges.

Case	Clinical Presentation	Investigations + Diagnosis	Intraoperative Findings + Procedure	Unique Learning Point
1	65M with sepsis, shock, and long - standing constipation	CECT: Long-segment sigmoid diverticulitis with perforation, localized collection and fat stranding → **Perforated sigmoid diverticulitis with localized peritonitis** *(Fig 1)*	Purulent peritonitis with dense adhesions; laparoscopic sigmoidectomy with primary circular stapled anastomosis after resuscitation *(Fig 2)*	Laparoscopy is feasible in selected unstable patients after adequate optimization
2	36F with cyclical abdominal pain and rectal bleeding during menstruation	MRI: Pelvic endometriosis with rectal involvement → **Deep infiltrating rectal endometriosis** *(Fig 3)*	Rectal and pelvic endometriotic deposits; laparoscopic excision with rectal resection, plane creation between rectum and vagina, stapled colorectal anastomosis with organ preservation (Fig 4)	Upfront surgery can provide a definitive cure in selected patients

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Case	Clinical Presentation	Investigations + Diagnosis	Intraoperative Findings + Procedure	Unique Learning Point
3	55M with persistent bleeding after hemorrhoidectomy	Colonoscopy: Rectal polyp; biopsy: adenocarcinoma; MRI: T2 lesion → **Rectal cancer (missed diagnosis)** *(Fig 5)*	Bulky rectal tumor in narrow pelvis; laparoscopic anterior resection with stapled colorectal anastomosis *(Fig 6)*	Colonoscopy is mandatory in patients >45 years with bleeding per rectum
4	68M with Abdominal pain and weight loss	CT: T4 splenic flexure mass with peritoneal involvement; biopsy: adenocarcinoma → **Locally advanced splenic flexure cancer** *(Fig 7)*	Tumor involving splenic flexure and adjacent peritoneum; laparoscopic left hemicolectomy with en bloc resection including peritoneum and Gerota's fascia, colo-colic anastomosis *(Fig 8)*	Neoadjuvant therapy can enable minimally invasive resection in advanced disease
5	45 yr M Constipation with incidental perirectal mass	MRI: 5×6 cm stromal tumor → **Perirectal GIST-like tumor** *(Fig 9)*	Well-encapsulated tumor involving serosa and outer muscular layer; complete laparoscopic excision with frozen section confirmation *(Fig 10)*	Frozen section helps avoid overtreatment and preserves organ function

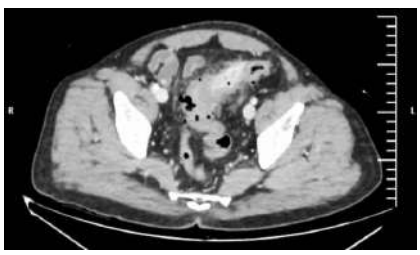

Fig 1 : CT showing Localised perforation and long segment sigmoid diverticulitis

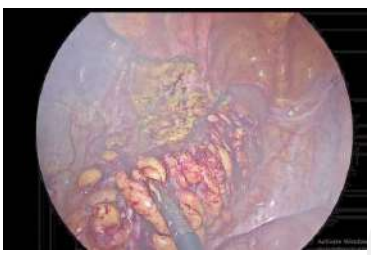

Fig 2 :Intraop pic of localised perforation & adhesions due to severe sigmoid diverticulitis

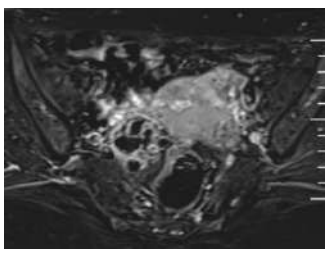

Fig 3 : MRI showing endometriotic cysts and nodule over & Infiltrating rectum.png

Fig 4 : introp pic showing endometriotic cysts and adhesions between rectum, uterus and vagina

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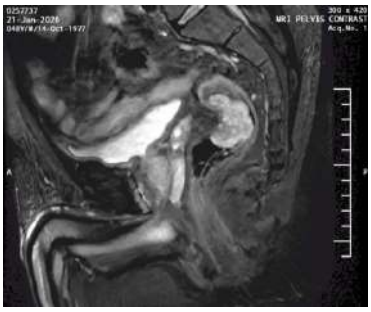

Fig 5 : MRI showing large rectal polyp with wide base

Fig 6 : Intraop pic of large infiltrative adenoca from the anterior wall of Rectum

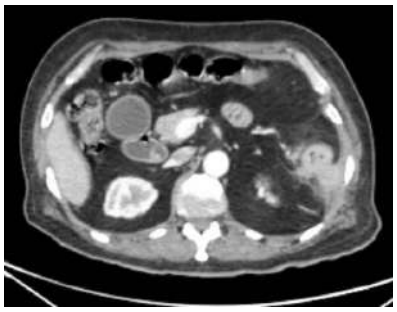

Fig 7 : CT showing locally advanced splenic flexure adenoca with peritoneal involvement

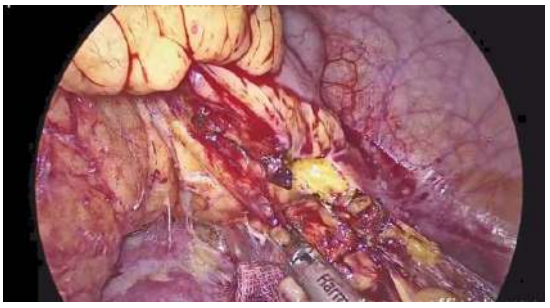

Fig 8 : Intraop pic Left colon medialised along with Anterior Gerotas fascia and peritoneum, kidney seen exposed

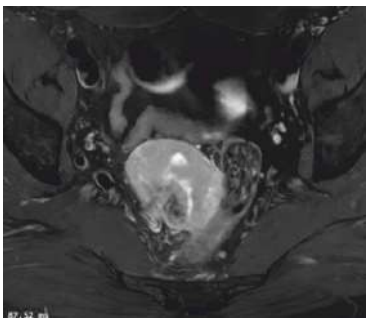

Fig 9 :MRI showing pararectal mass

Fig 10 : Intraop pic showing pararectal mass

Discussion

This case series highlights several important aspects in modern colorectal surgical practice at Royal Care Super Speciality Hospital.

1. Expanding Role of Laparoscopy, 2. Importance of Early Diagnosis, 3. Managing Diagnostic Ambiguity, 4. Role of Neoadjuvant Therapy, 5. Avoiding Open Conversion, 6. Surgeon Experience and Institutional Expertise

Conclusion

Minimally invasive colorectal surgery has evolved beyond routine cases to encompass complex and atypical presentations. Early diagnosis, timely referral, multidisciplinary management, appropriate expertise, careful patient selection, and meticulous surgical technique, even challenging colorectal conditions can be managed laparoscopically with excellent outcomes.

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GLIMPSE

Royal Care Institute of Nursing
Iii Batch Lamp Lighting
Ceremony
10.01.2026

Republic Day
Celebration 2026

Medical
Consultation Camp
held at Dharapuram
on 15.02.2026

Nourish to Neutralize - CNE
Program held at
Royal Care on
18.03.2026

State Level Seminar on
Bridging Gaps in Neuro
Nursing Practice. Advancing
Innovations & Clinical
Excellence held at Royal Care
Institute of Nursing on
27.03.2026

Radio City Icon Awards 2026

Fall Risk Prevention Campaign held at Royal Care

Successfully Performed 250+ MrgFus Procedures

Special Eye Screening Camp held at Senjerimalai

Head Injury & Polytrauma Awareness Walkathon 2026

Excellence in Every Step
The Royal Care Nursing Journey

I NNOVATION
MPLEMENT
MPACT

Royal care super specialty hospitals has collaborated withINFUZE – A Quality Improvement Program in Infusion Therapy INS- INDIA.

SAFE PATIENT TRANSFER

Stable patients transferred without nurse escort, transported by ward attendants shall use this ticket to ride form. The nurse assess, document the patient's status before transfer, the receiving unit is aware of the patient condition upon transfer.

NEWLY INTORDUCED

PROACTIVE ROUNDS : Structured nursing practice in which nurses regularly visit each patient's room at set hourly intervals to assess Pain, Position, Placement, Potty and Peace needs, ensure safety, and provide comfort.

STAFF WELLBEING:

A tool to assess themselves for readiness to duty every shift " I am Safe" checklist was developed and implemented which helps the team to know their wellbeing for the day.

IMPROVING EFFECTIVE COMMUNICATION TO PROMOTE PATIENT SAFETY:

PatientSafety Evening Huddle is a short, structured team discussion (30 minutes) conducted during the evening shift to review patient status, safety concerns, staffing, and priorities for the remaining shift.

ENSURES PATIENT SAFETY BY

confirming clinical stability before discharge, discharge check off supports a safe transition of careto Prevents omissions and errors in medications, instructions, and documentation.

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PROFESSIONAL DEVELOPMENT ACTIVITY

- English Proficiency Training for Nurses is a focused educational program designed to improve nurses' communication skills, enabling clear, confident, and professional interaction with patients, families, and the healthcare team
- Computer Class for Nurses is a structured training program designed to enhance nurses' digital skills, enabling efficient, accurate, and safe use of hospital information systems and technology in patient care.

REWARDS & RECOGNITIONS :

Star of the Month

Best Nurse for the month

Good Catch Award: Those nurses who catch a near miss reaching harm to the patient

Patient Choice Award : Nominated by patient for compassionate care

Best Ward: Those ward who meet the best standards for the month is given the Rolling Trophy

Core Values Awards- Nurses who meet the core values of the hospital Gratitude Cards

Thanks to our True Heroes.... Nurses at Royal Care Hospital !!!

Stepping into the first quarter of the New Year 2026, I take a moment to reflect the incredible diligence and dedication , more importantly the resilience I have witnessed among our nurses.

You make a difference in every patient recovery and healing with your compassion and care. The milestones accomplished over the year is truly commendable.

Looking ahead this year with lots of exciting experience, moments for a positive practice environment that keep you and your patients safe and healthy. Await for Wellness Wednesdays, Daisy Launch, Culture of Excellence in everything we do.

Let's continue to support, innovate, inspire and impact patient outcomes !!

Looking ahead, we will be launching Wellness Wednesdays, offering short mindfulness sessions and peer support circles to help us care for ourselves as much as we care for others.

Dr. Shyamala Kumar
Director of Nursing

The DAISY Award®
FOR EXTRAORDINARY NURSES
HONORING NURSES INTERNATIONALLY
IN MEMORY OF J. PATRICK BARNES

Introducing WMTY:

The "What Matters to You the Most"campaign seeks input from nurses to identify their priorities. Additionally, the "We Care for You" meeting focuses on pinpointing deficiencies and formulating strategies for improvement

Stereotactic Radiation therapy – A high end radiation therapy technique – Its role in the treatment of CNS tumors.

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Dr. T. Sujit
MBBS, DMRT, DNB.,
Consultant Radiation Oncologist

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Consultant Radiation Oncologist

Introduction :

Stereotactic radiation therapy is a state of the art radiation treatment technique in the contemporary era, which enables a radiation oncologist to deliver very high doses of radiation with very minimal radiation exposure to near normal tissues. For context in conventional radiation therapy techniques like 3DCRT, IMRT, Rapidarc the daily dose of radiation delivered to target volume is 2 Gy where as in stereotactic radiation therapy as high as 5 Gy to even 25 Gy is delivered in single session. Stereotactic radiation implies a perfect blend of accurate radiological diagnosis in 3D, sophisticated radiation treatment planning and precise delivery of radiation therapy. The central dogma of any radiation therapy treatment is delivering high doses of radiation to the target volume (Tumor) to achieve cure along with as minimal dose of radiation as possible to surrounding normal tissues in that region of body to avoid toxicity, which can be perfectly achieved in stereotactic radiation therapy. Hence stereotactic radiation therapy is a desired treatment technique for a radiation oncologist whenever it is clinically applicable and technically feasible. Brain being a critical organ in controlling all our body functions avoiding radiation to uninvolved regions of brain is highly desirable and brain being devoid of any physiological movements (like movements during respiration, digestion etc.) makes it one of the most ideal organ to suit stereotactic radiation therapy.

Stereotactic radiation in CNS tumors :

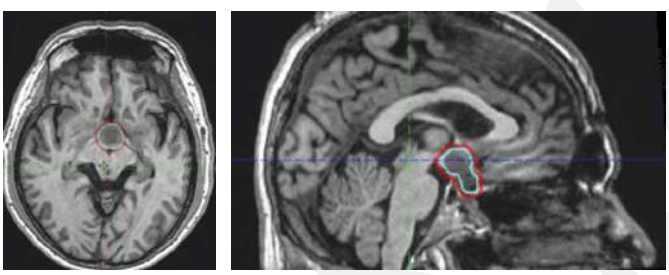
As stated earlier brain is an ideal organ for stereotactic radiation. Stereotactic radiation is indicated in various clinical conditions, including benign tumors, malignant tumors, vascular malformations and some functional conditions. Well encapsulated and less infiltrative nature of non malignant conditions suits stereotactic radiation than malignant lesions.

Benign tumors : Pituitary adenoma, Vestibular schwannoma, Meningioma, Hemangioblastoma

Malignant tumors : Brain metastasis, Glioma,

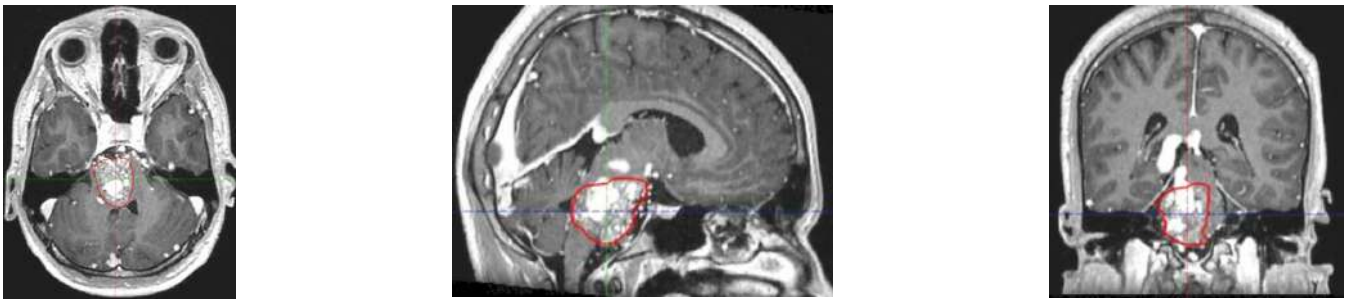
Vascular malformations : Arteriovenous malformations (AVM), Dural AV fistulas, Cavernomas

Functional disorders : Trigeminal neuralgia, intractable seizures, movement disorders



A B

Fig 1. A. T1 axial MRI shows a Hypointense pituitary adenoma lesion with CTV and PTV contours made for SRS planning.
B. Sagittal section of same patient.



A B C

Fig 2. A. Contrast enhanced Axial T1 MRI shows a contrast enhanced AVM lesion in pons region along with SRS planning contours.
B. Sagittal section.
C. Coronal section.

Condition	Outcomes in literature
Pituitary adenoma[1]	PFS at 5 yrs 95% PFS at 10 years 93%
Vestibular schwannoma[2]	LC at 5 yrs 95% LC at 10 yrs 94%
AV malformation[3]	Obliteration rates : 48% at 3 years 76% at 5 years 77% at 10 years
Hemangioblastoma[4]	LC at 5 yrs : 94% LC at 10 yrs : 80%
Meningioma[5]	LC at 10 yrs : 92% LC at 15 yrs : 89% LC at 20 yrs : 86 %
Brain metastasis[6]	LC at 1 yr : 88.3% LC at 2 yrs : 80.3%

PFS – Progression Free Survival, LC – Local Control

Advantages of stereotactic radiation over conventional treatments:

1. Less number of hospital visits. Unlike conventional fractionated treatments, stereotactic treatments is completed in a single day or with in 5 days.
2. Much less acute radiation toxicity.
3. Able to preserve vital functions due to better normal tissue sparing.
4. Early recovery and return to normal work.

Contraindications :

1. Highly aggressive malignant tumors.
2. Multi focal primary disease.

Where we stand :

Radiation Oncology department at Royal care hospital, stands as one of the pioneers in stereotactic radiation therapy treatment. Till now we have treated more than 50 patients with brain lesions including benign tumors, malignant tumors, AV malformations. Without any higher grade acute or long term radiation toxicity reported so far. We are equipped with Varian truebeam STx linear acceleration which custom designed for stereotactic treatments, which has the capability of delivering radiation with Sub mm accuracy.

Conclusion :

Stereotactic radiation therapy to brain is a safe, effective, non invasive, technically feasible, state of the art radiation therapy technique saving brain lesion patients. It compliments surgical treatment or used as stand alone treatment option where surgical treatment is very complicated to carry out.

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Repetitive Transcranial Magnetic Stimulation for Neuromodulation

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MD, DNB, DPMR .,
Consultant Physiatrist and
Head of the Department
Institute of Physical Medicine and Rehabilitation

Dr. S. Saliha Thahsin
MD (PMR).,
Consultant Physical
Medicine and Rehabilitation

Repetitive Transcranial Magnetic Stimulation (rTMS) is a non-invasive neuromodulation technique that uses magnetic pulses to modulate cortical excitability and promote neuroplasticity. In neurorehabilitation, rTMS has emerged as an adjunctive therapy for conditions such as stroke, traumatic brain injury, and movement disorders. By applying excitatory or inhibitory stimulation to targeted brain regions, it helps restore inter hemispheric balance, enhance motor recovery, and improve cognitive and mood functions. We are presenting 3 case reports which can substantiate its use in Neuro rehabilitation.

Case No 1

A 17-year-old male sustained a severe traumatic brain injury following a fall from height, resulting in Grade III Diffuse Axonal Injury (DAI) with associated Extradural Hematoma (EDH), polytrauma, lung injury, and vascular compromise requiring endovascular aortic repair. His course was further complicated by aspiration pneumonia, necessitating prolonged ventilatory support and an ICU stay of approximately 2 months.

Following medical stabilization, the patient remained in a minimally consciousness state and was initiated on a structured neurorehabilitation program including bedside physiotherapy, coma stimulation therapy, and speech therapy.

Given the limited neurological recovery, Repetitive Transcranial Magnetic Stimulation (rTMS) was introduced as an adjunct neuromodulation strategy. The protocol included Excitatory stimulation over the Dorsolateral Prefrontal Cortex (DLPFC) and Inhibitory stimulation over the primary motor cortex (M1)

Over a period of 3 weeks following rTMS initiation, the patient demonstrated significant neurological improvement:

- Improved level of consciousness
- Gradual return of voluntary motor activity with increased muscle strength
- Improved swallowing function, enabling safe oral intake
- Successful decannulation

At the time of discharge, the patient had achieved:

- Independent ambulation with minimal support
- Functional speech with no significant cognitive deficits
- Full oral feeding without aspiration

This case highlights the potential role of rTMS as an adjunctive neuromodulation tool in traumatic brain injury, particularly in disorders of consciousness. The combination of DLPFC excitation and M1 inhibition may have contributed to enhanced cortical network reorganization and functional recovery.

Case No 2

A 49-year-old female with a history of left middle cerebral artery infarct 4 years prior presented with chronic right-sided hemiplegia. On clinical evaluation, the patient demonstrated Grade 0 muscle power in the right upper limb. Her condition was further complicated by Complex Regional Pain Syndrome, contributing to persistent pain, disuse, and limitation in functional recovery.

Functionally, the patient was significantly impaired. She was able to ambulate with the assistance of a walking aid; however, her gait was abnormal, characterized by poor weight transfer, asymmetry, and reduced balance. She remained dependent for activities of daily living, including bathing, dressing, toileting, and mobility. These limitations indicated a high level of disability and reduced independence despite being in the chronic phase of stroke recovery.

Psychologically, the patient exhibited features of Post-stroke depression, including low mood, reduced motivation, and poor participation in rehabilitation. She had a significant loss of premorbid identity, having previously worked as a writer. Additionally, there was no evidence of community reintegration, further contributing to social isolation and diminished quality of life.

The patient was enrolled in a structured Outpatient-based multidisciplinary rehabilitation program. The rehabilitation protocol included conventional physiotherapy focusing on mobility, strengthening, and gait training; occupational therapy aimed at improving functional independence in ADLs; robotic-assisted therapy to facilitate motor relearning; and aquatherapy to enhance movement with reduced gravitational load and pain..

In addition to conventional rehabilitation, Repetitive Transcranial Magnetic Stimulation (rTMS) was introduced as a neuromodulation strategy using a Coupled protocol. This involved modulation of cortical excitability through inhibitory stimulation of the contralesional hemisphere and excitatory stimulation of the ipsilesional motor cortex. The patient underwent an initial course of 10 continuous sessions, followed by maintenance therapy administered three times per week.

Over a period of 6 weeks , the patient had significant improvement in hand function , pain and gait symmetry . Despite the chronicity of the condition, targeted interventions incorporating advanced rehabilitation techniques and neuromodulation may offer meaningful improvements.

Case No 3

A 58-year-old female presented with a 5-year history of progressive difficulty in walking, slowness of activities, and cognitive decline. Neuroimaging with MRI brain demonstrated bilateral parieto-occipital atrophy.Clinically, the patient exhibited significant visual impairment characterized by loss of color vision, depth perception, and difficulty in recognizing size and shape, consistent with Cortical blindness. She also had moderate cognitive impairment, mild incoordination, balance deficits, and was dependent on activities of daily living.

The patient was enrolled in a comprehensive multidisciplinary rehabilitation program. This included physiotherapy for mobility and balance training, occupational therapy for functional independence, and structured cognitive retraining and Visual Rehabilitation In addition, Repetitive Transcranial Magnetic Stimulation (rTMS) was initiated as a neuromodulation strategy. The protocol included excitatory stimulation over the Dorsolateral prefrontal cortex (DLPFC) along with Bilateral Occipital lobe excitatory stimulation

Following the intervention, the patient demonstrated significant functional and neurological improvements. There was notable recovery in color perception, depth perception, and object identification, particularly in near vision tasks. Cognitive functions showed measurable improvement, accompanied by enhanced attention and responsiveness. Additionally, there was a positive impact on mood and motivation, likely contributing to improved participation in therapy. Functionally, the patient exhibited increased independence in activities of daily living.

This case highlights the potential role of combined neuromodulation and multidisciplinary rehabilitation in improving visual, cognitive, and functional outcomes in patients with cortical visual impairment.

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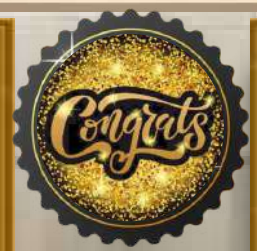

welcome

Dr. Seema Math

MBBS, MS, MRCS(UK), General Surgery, Fellowship in Minimal invasive surgical gastro, HPB Liver transplant, Gastro Liver, Transplant

Consultant - Gastro and Liver Transplant Surgeon

Dr. Seema Math completed her MBBS from Shri B.M. Patil Medical College, Bijapur, in 2007, followed by MS in General Surgery from Sri Devaraj Urs Medical College, Kolar, in 2011. She further pursued a Fellowship in Minimally Invasive Surgical Gastroenterology from Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka, in 2017.

She also completed a Fellowship in HPB Liver Transplant from Kokilaben Dhirubai Ambani Hospital, Mumbai, in 2017, and a Fellowship in Gastro Liver Transplant from Indraprastha Apollo Hospital, New Delhi, in 2018.

Before joining Royal Care Super Speciality Hospital, Dr. Seema Math worked as a Research Fellow in Gastroenterology at Indraprastha Apollo Hospital, New Delhi.

Dr. Sinduja Paul

MD (RD), EDiR, MICR, Fellow in Hybrid Imaging (USZ)

Consultant - Radiologist

Dr. Sinduja Paul completed her Bachelor of Medicine and Bachelor of Surgery (MBBS) from P.S. Govindasamy Naidu Institute of Medical Sciences & Research (PSGIMSR), Dr. M.G.R. Medical University, Tamil Nadu, India, in 2015. She subsequently pursued a Doctor of Medicine (MD) in Radiodiagnosis from Sri Ramaswamy Memorial Institute of Science and Technology (SRMIST), SRM University, Tamil Nadu, India, in 2020.

She earned the European Diploma of Radiology (EDiR) from the European Board of Radiology in 2022 and completed the Certification Course in Spine MRI from the 4th British Musculoskeletal MRI Reporting Course in 2022. She further completed a Master's in Clinical Radiology from the Indian College of Radiology and Imaging in 2023, followed by a Fellowship in Radiological Anatomy (Part 1) from The Royal College of Radiology, United Kingdom, in 2023. In 2024, she completed a Fellowship in Hybrid PET Imaging from the University of Zurich, Switzerland, and also qualified for the State of Qatar Diagnostic Radiology Examination conducted by the Department of Healthcare Professions, Ministry of Public Health, Qatar.

Prior to joining Royal Care Super Speciality Hospital, Dr. Sinduja Paul worked as a Consultant Radiologist at Abeer Medical Centre, Abu Hamour, Qatar.

Dr. M.S. Aswath MBBS, MD

Consultant - Nuclear Medicine

Dr. M.S. Aswath completed his MBBS from Coimbatore Medical College under Dr. M.G.R. Medical University, Chennai, in 2011. He subsequently pursued an MD in Nuclear Medicine from Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow, during the period 2020–2023.

Prior to joining Royal Care Super Speciality Hospital, Dr. M.S. Aswath worked as a Consultant and Head of the Department of Nuclear Medicine and Molecular Imaging at Paras Hospital, Kanpur.

Congrats

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