PSG MediPulse

PSG Hospitals
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From Wreckage to Recovery

A JOURNEY OF SURGICAL EXCELLENCE

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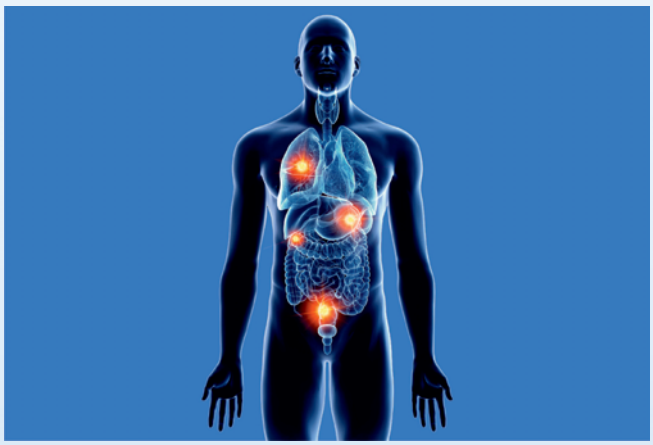
PRECISION RADIATION THERAPY IN OLIGOMETASTATIC BREAST CANCER:
A Beacon of Hope for Young Women

Dr. **Ezhil Sindhanai M Parvath**
Radiation Oncologist

Historically, metastatic breast cancer was considered uniformly incurable. However, the evolving concept of oligometastasis - a state of limited metastases often amenable to curative-intent therapy - has shifted treatment paradigms. Oligometastatic breast cancer (OMBC) represents a unique clinical scenario with limited metastatic disease, opening the door to aggressive local and systemic therapy aimed at long-term control or even cure. With advancements in systemic therapy and highly conformal radiotherapy, it is now feasible to aggressively treat selected patients with limited metastatic burden, especially in the era of personalized medicine.



This case of a young 37-year-old premenopausal woman diagnosed with triple-positive OMBC highlights how a multidisciplinary, precision-guided approach, including targeted systemic therapy and advanced radiation therapy techniques using tomotherapy, can achieve excellent locoregional control and improve survival outcomes, while preserving her quality of life.

Case Summary:

Patient Profile:

- **Age/Sex:** 37-year-old female
- **Comorbidities:** None
- **Family History:** Negative for cancer
- **Reproductive History:** Premenopausal, multiparous

Initial Presentation:

- Palpable right breast lump
- **PET-CT Findings:**
  - Right breast mass
  - Right axillary and internal mammary lymphadenopathy
  - Lytic lesion in the body of sternum
  - Right level IV cervical lymph node
- **Breast biopsy:** Invasive carcinoma Grade II, triple positive (ER 8, PR 6, HER2 3+)
- **FNA from cervical node:** Metastatic carcinoma

Diagnosis:

- **Staging:** T3N3bM1 – Oligometastatic disease involving sternum and cervical node
- **Genetic Testing:** gBRCA negative

Treatment Journey:

Neoadjuvant Systemic Therapy:

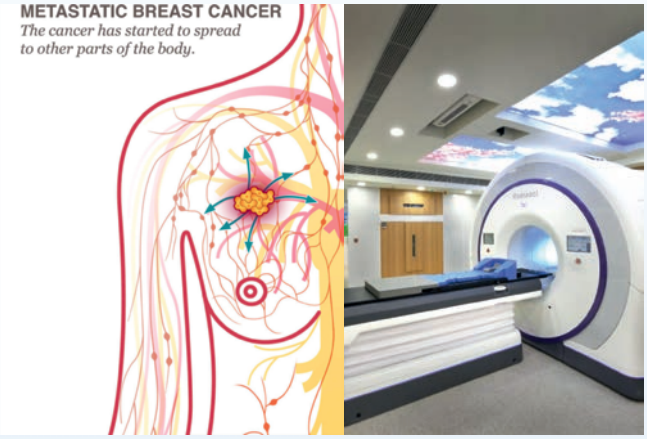
- Initiated with 4 cycles of EC (Epirubicin, Cyclophosphamide) followed by 4 cycles of THP

(Docetaxel, Trastuzumab, Pertuzumab) and bisphosphonate therapy

- Reassessment PET-CT showed a marked response in both primary and metastatic sites

Surgical Management:

- Right Modified Radical Mastectomy
- Right Cervical Lymph Node Dissection
- Prophylactic Laparoscopic Bilateral Salpingo-oophorectomy
- HPE Findings:
  - Residual microscopic invasive disease (ypT(mi)1 pN1a)
  - Negative margins
  - Lymphovascular invasion present



Radiation therapy: Targeting with Precision

Following surgical recovery, the patient was discussed in a multidisciplinary tumor board and deemed fit for aggressive adjuvant radiation therapy to consolidate locoregional control and address residual microscopic disease.

- Radiation therapy Details:
  - **Total dose:** 50 Gy in 25 fractions, once a day, 5 days/week for 5 weeks
  - **Technique:** Tomotherapy (image-guided)
  - **Target volumes:** Right chest wall, right supraclavicular fossa, right axilla (level III), right internal mammary nodes, and sternal metastasis
  - Organs at risk spared effectively, preserving cardiac and pulmonary function

Tomotherapy was particularly advantageous in this young patient, offering precise delivery to complex target volumes while minimizing exposure to critical organs like the heart and lungs.

Adjuvant Systemic Therapy:

Adjuvant hormonal therapy and TDM1 systemic therapy

Key Clinical Insights:

This case illustrates the promise of aggressive treatment in OMBC. The combination of:

- Highly effective systemic therapy
- Surgical resection of both primary and metastatic nodal sites, and
- Precision radiation therapy to all involved regions,

has the potential to yield prolonged disease control, possibly cure, in a subset of patients.

- The integration of advanced RT techniques like Tomotherapy with its helical delivery and integrated imaging enables dose painting with millimetric precision - crucial when treating irregular, deep seated volumes and anatomically sensitive regions like the internal mammary chain or sternum. This case reinforces the transformative role of Radiation Oncology in OMBC when delivered with precision and intent.
- Tomotherapy offers a state-of-the-art modality for safely irradiating complex target volumes with minimal toxicity.

Oligometastatic disease - What was once a historically palliative diagnosis is now a potential for long-term remission or cure. Multidisciplinary collaboration is vital for optimal outcomes in the management.

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BEYOND THE CRASH: Saving a Life Through Surgical Precision
A MULTI-SPECIALTY SUCCESS AT PSG HOSPITALS

Dr. Major
K Kamalanathan
Department of Orthopaedics

At PSG Hospitals, Coimbatore, excellence in trauma care is not just a commitment - it's a reality demonstrated time and again through some of the most complex and high-risk cases. One such extraordinary story is that of a 30-year-old woman who survived a devastating road traffic accident and was brought back from the edge through expert multi-disciplinary care, meticulous surgical planning, and compassionate post-operative support.

This case exemplifies not only clinical mastery but also the life-saving potential of coordinated trauma management.

A Life-Altering Accident:

The patient was a passenger in a three-wheeler (auto - rickshaw) when it was struck by a four - wheeler near Palladam on December 9, 2023. She was initially treated at a local government hospital before being shifted to PSG Hospitals. Upon arrival at the Emergency Department, she presented with multiple severe injuries:

- Open Grade 3B fractures in both lower limbs
- Comminuted fractures of the right humerus and forearm bones
- Mandibular fractures involving both body and ramus
- Fracture of the left pubic rami, along with a high suspicion of fat embolism syndrome

She was hemodynamically unstable with a blood pressure of 80/50 mmHg and a pulse rate of 122/min, but was conscious and oriented, a critical window for early intervention.

Multi-Staged, High-Risk Surgeries:

What followed was a series of staged surgical procedures, each carefully timed and executed over a one-month hospitalization period.

Stage 1:

Stabilization and Damage Control

- Emergency wound debridement and bilateral knee-spanning external fixator placement under general anesthesia on the day of admission.
- The goal was to prevent infection, stabilize open fractures, and buy time for definitive procedures.

Stage 2:

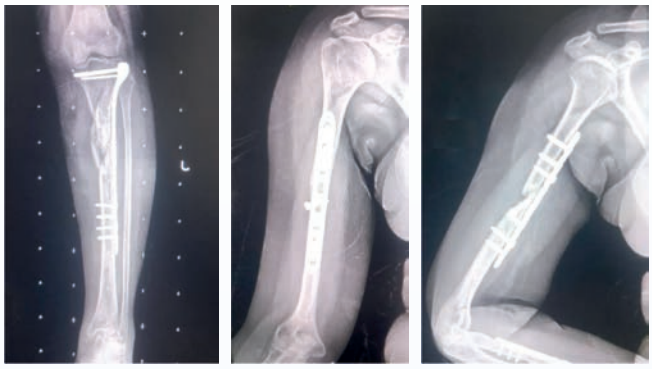
Internal Fixation Surgeries

- Internal fixation of the right humerus and right forearm was performed using plates and cortical screws.
- Surgeons addressed the right femur with interlocking intramedullary nailing, and the right tibia using bicondylar plating.
- The left tibial fracture, considered the most complex due to soft tissue loss, was addressed on December 26 with plating and split-thickness skin grafting, jointly executed by orthopedic and plastic surgery teams.

Stage 3:

Maxillofacial Repair

- Simultaneously, fractures of the mandible were reduced and stabilized using miniplate fixation and arch bar wiring, restoring jaw alignment and preventing future occlusal complications.



Over five major surgeries, the orthopedic, trauma, plastic, and anesthesia teams demonstrated extraordinary synergy and resilience.

Critical Care and Challenges in Recovery:

The complexity of the case extended far beyond the operating room. The patient developed signs of fat embolism syndrome, characterized by desaturation and respiratory distress. She was managed in the Medical ICU with:

- Low molecular weight heparin
- Oxygen support
- Bronchodilators
- High-level monitoring for pulmonary complications

She also required multiple units of packed red blood cells (PRBC) due to intraoperative blood loss, and a catheter-associated urinary tract infection (UTI) was successfully treated after antibiotic sensitivity testing revealed multi-drug-resistant organisms.

Regular consultations were provided by the Departments of General Medicine, Cardiology, Plastic Surgery, and Respiratory Medicine, ensuring 360-degree care throughout her stay.

Rehabilitation and Discharge:

Post-surgical recovery included:

- Intensive physiotherapy starting from in-bed mobilization to active limb movement
- Foot-drop splinting for peroneal nerve recovery
- Nutritional support, supplementation and anemia correction
- A customized medication regimen including anticoagulants, vitamins, and antibiotics

The patient was discharged on January 10, 2024, in improved condition. After completing 2 years she recovered fully and independent to work on her own doing all activities of daily living, mobilising herself without any support.

A Case That Defines PSG Hospitals' Mission:

This case stands as a beacon of what comprehensive, protocol-driven trauma care can achieve:

- 7 major fractures across 4 limbs and the face
- Multiple surgeries spanning orthopedic and plastic specialties
- High risk of sepsis, embolism, and organ dysfunction
- No major post-operative complications or mortality

The success of this case wasn't just about survival - it was about restoring dignity, function, and quality of life to a young woman who had nearly lost everything in seconds.

Conclusion:

At PSG Hospitals, we understand that treating trauma is not just about fixing broken bones - it's about rebuilding lives. The seamless collaboration between our departments, the use of state-of-the-art surgical techniques, and the unshakeable focus on patient-centered outcomes made this case a true life-saving victory.

This is what defines us. This is PSG Hospitals.

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BREAKING BOUNDARIES IN PAEDIATRIC SURGERY:
PSG Hospitals Successfully Treats a Rare Case of Rapunzel Syndrome

Dr. **Pavai Arunachalam**
Department of
Paediatric Surgery

Medical science often faces challenges that test the limits of technology, expertise, and compassion. At PSG Hospitals, such challenges are opportunities to push the boundaries of healthcare. One such remarkable success was recently achieved by our Department of Paediatric Surgery, where a 14-years -old girl suffering from Rapunzel Syndrome was treated through an advanced robotic-assisted laparoscopic gastrotomy – a complex, rare, and life-saving procedure.

Understanding Rapunzel Syndrome:

Rapunzel Syndrome is an extremely rare medical condition caused by the compulsive swallowing of hair (trichophagia), often linked to trichotillomania, a psychiatric disorder where individuals have an uncontrollable urge to pull and eat their own hair. Over time, this ingested hair accumulates in the stomach, forming a trichobezoar (hairball) that may extend into the intestines, resembling the long hair of the fairy-tale character Rapunzel.

This condition is exceptionally rare, with only a few hundred documented cases worldwide. Left untreated, it can cause:

- Severe abdominal pain
- Gastric outlet obstruction
- Malnutrition and anemia
- Intestinal perforation or life-threatening sepsis

The Patient's Story:

undergone surgery in 2019 for the removal of a trichobezoar. Following her initial surgery, she developed postoperative complications, including wound infection and fluid collection, which were managed successfully.

Despite ongoing psychiatric support, she presented again to PSG Hospitals in March 2023 with persistent abdominal pain. Initial investigations revealed a massive trichobezoar extending from the stomach into the duodenum and jejunum.

Attempts were made to retrieve the mass via endoscopy, but the sheer size and compactness of the hairball made endoscopic removal impossible. At this point, it was clear that a major surgical intervention was necessary – but given her prior surgical history and adhesions, a conventional open approach carried higher risks of complications, infection, and prolonged recovery.

The PSG Solution: Robotic-Assisted Surgery:

Recognizing the complexity of the case, the paediatric surgical team, led by Dr. Pavai Arunachalam, Professor of Paediatric Surgery, along with a skilled team of experts including Dr. Aniruthan and Dr. Rajkumar opted for a robotic-assisted laparoscopic approach using state-of-the-art robotic technology available at PSG Hospitals.

The Surgical Journey:

- The patient was placed under general anaesthesia in a supine position.

- Multiple robotic ports were strategically placed, allowing precision access to the abdominal cavity.
- The surgical team carefully released dense adhesions between the stomach and liver caused by the previous surgery.
- A gastrotomy (surgical opening of the stomach) was meticulously performed on the anterior stomach wall.
- A giant trichobezoar, with its "tail" extending into the duodenum and jejunum, was identified and removed in toto using advanced robotic instruments and specimen retrieval techniques.
- The gastrotomy was securely closed in two layers, ensuring the stomach's structural integrity.
- The procedure was completed with minimal blood loss, minimal contamination, and reduced operative trauma.

Holistic & Multidisciplinary Care:

At PSG Hospitals, we recognize that treating Rapunzel Syndrome is not just about surgery. It is about comprehensive healing. Alongside the surgical intervention, the patient continues to receive:

- Psychiatric counseling to address her trichotillomania and prevent recurrence.
- Nutritional rehabilitation to correct anemia and ensure healthy growth.
- Long-term follow-up care with both paediatric surgeons and mental health professionals.
- This holistic approach ensures not only physical recovery but also emotional and psychological well-being, reducing the chances of recurrence.

At PSG Hospitals, every child deserves a future filled with health, happiness, and possibilities. And we are here to make that happen.

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PSG HOSPITALS' DEPARTMENT OF OBSTETRICS & GYNECOLOGY SUCCESSFULLY CONDUCTS E-MOCK 2025

The Department of Obstetrics & Gynecology, PSG Hospitals, proudly hosted its flagship academic event, E-Mock 2025, from 31st July to 3rd August 2025 at the PSG IMSR Auditorium. The four-day program served as a comprehensive refresher course for postgraduates, blending academic rigor with practical learning.

The event featured an engaging mix of case discussions, lectures, case scenarios, demonstrations, drills, problem-based learning, and panel discussions, ensuring an all-round academic experience for participants. Over 40+ renowned faculty members and senior consultants shared their expertise, providing valuable insights into both core concepts and recent advances in Obstetrics & Gynecology.

Highlights of the program included:

- Case - based learning sessions on high - yield topics such as anemia in pregnancy, infertility, carcinoma cervix, gestational diabetes, prolapse, and carcinoma ovary.
- Focused lectures on critical issues like sepsis, complex caesarean protocols, and genetic screening for gynecological malignancies.
- Demonstrations and drills covering maternal pelvis, fetal skull mechanisms, PPH, shoulder dystocia, forceps & vacuum delivery, laparoscopy and hysteroscopy.
- Interactive role plays and simulated ward rounds to strengthen clinical decision-making.
- A highly competitive quiz session that energized participants and encouraged active knowledge sharing.

The program also emphasized multidisciplinary collaboration, with sessions addressing neonatal care, medical complications in pregnancy and medico - legal aspects like the POCSO Act and surrogacy law.

Speaking on the success of the event, Organizing Secretaries Dr. Seetha Panicker, Dr. T.V. Chitra and Dr. Latha Maheshwari highlighted the importance of E-Mock in preparing postgraduate students for both examinations and real-world clinical practice.

With enthusiastic participation, constructive discussions, and hands-on demonstrations, E-Mock 2025 concluded on a highly successful note, reaffirming PSG Hospitals' commitment to nurturing the next generation of clinicians through academic excellence, clinical exposure, and innovative teaching methodologies.

At PSG, learning goes beyond classrooms - it is about preparing doctors to deliver compassionate, evidence - based, and high-quality care to every patient.

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PSG HOSPITALS CASE STORY: Non-Hodgkin Lymphoma Presenting with Respiratory Symptoms

Dr. R. Jaya Kumar
Department of
Respiratory & Chest Medicine

Abstract:

A 20-year-old male with persistent respiratory complaints and systemic "B symptoms" underwent structured evaluation at PSG Hospitals. Advanced diagnostics, including Interventional Pulmonology procedures (EBUS-TBNA and mediastinal cryo biopsy), along with PET-CT, led to the diagnosis of Non-Hodgkin Lymphoma (NHL). This case underscores the value of IP in expediting diagnosis and the importance of multidisciplinary care in transitioning to oncologic therapy.

Case Presentation:

A 20-year-old male presented with:

- Breathlessness and chronic cough for six months
- Fever, night sweats, and weight loss for two months
- Worsening dyspnea on exertion
- He had received empirical antibiotics and bronchodilators at another centre without significant benefit.

Diagnostic Workup:

Led by the Interventional Pulmonology team:

- **CECT Chest & Abdomen:** Multiple enlarged mediastinal and abdominal lymph nodes; paratracheal and subcarinal nodal mass causing bronchial compression.
- **Bronchoscopy:** Extrinsic compression of right middle lobe bronchus.
- **EBUS-TBNA:** Cytology suggestive of high-grade lymphoproliferative disorder.
- **Mediastinal Cryo Biopsy:** Provided core tissue confirming NHL on histopathology; IHC positive for CD20, with high Ki-67 index.
- **PET-CT:** Demonstrated metabolically active nodal disease in mediastinum, abdomen, and iliac nodes, consistent with disseminated NHL.
- **Labs:** Mild anemia, elevated LDH. Bone marrow evaluation was planned.

Multidisciplinary Management:

- **Interventional Pulmonology & Respiratory Medicine:** Airway optimisation, bronchodilators, mucolytics, oxygen therapy, and diagnostic interventions.
- **Oncology & Hematology:** Counselling and initiation of systemic chemotherapy planning (CHOP ± rituximab regimen).
- **Nutrition & Supportive Care:** Infection prophylaxis, dietary optimisation, psychological support.

Hospital Course:

- Dyspnea improved following airway stabilisation and inhaled therapy.
- Family counselled on diagnosis, prognosis, and treatment options.
- Discharged in stable condition, planned for systemic chemotherapy initiation.

Discussion:

This case highlights the pivotal role of Interventional Pulmonology in diagnosing mediastinal lymphadenopathy. EBUS-TBNA provided early suspicion, while mediastinal cryo biopsy yielded adequate tissue for IHC confirmation. PET-CT staging guided treatment planning. The combination of IP procedures with oncologic expertise exemplifies a streamlined, patient-centred diagnostic pathway.

Clinical Pearls:

- Respiratory presentations of NHL can mimic chronic pulmonary disease.
- EBUS-TBNA is minimally invasive and highly effective for preliminary assessment.
- Cryo biopsy or surgical excision with IHC is essential for definitive classification.
- Multidisciplinary collaboration (IP, Oncology, Hematology) ensures accurate diagnosis and smooth transition to therapy.
- PET-CT is indispensable for staging and prognostication.

Conclusion:

At PSG Hospitals, the integration of Interventional Pulmonology techniques (EBUS-TBNA and cryo biopsy) with advanced imaging, histopathology, and multidisciplinary expertise enabled the timely diagnosis of Non-Hodgkin Lymphoma presenting with respiratory symptoms. This case reinforces the expanding role of IP in bridging respiratory and oncologic care.

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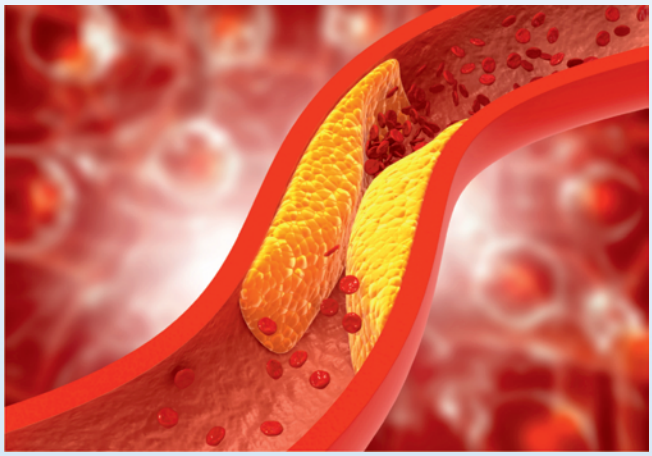
TURNING THE TIDE: Saving a Limb, Saving a Life at PSG Hospitals

Dr. P.R. Murugesan
Department of
Cardiothoracic & Vascular Surgery

When Pain Walked In, Expertise Took Over:

A 58-year-old gentleman walked into PSG Hospitals with a persistent pain in his right leg. What appeared to be a routine vascular issue quickly revealed a much more serious diagnosis. A CT scan identified small eccentric calcification in the right common femoral artery and non-visualization of the distal branches of dorsalis pedis and plantar arteries - clear indicators of advanced peripheral vascular disease (PVD).

Left untreated, this could have progressed to complete arterial blockage, risking severe limb damage or amputation. However, at PSG Hospitals, where expertise meets empathy, the outcome was destined to be different.



Precision Treatment Guided by PSG's Expert Cardiac Team

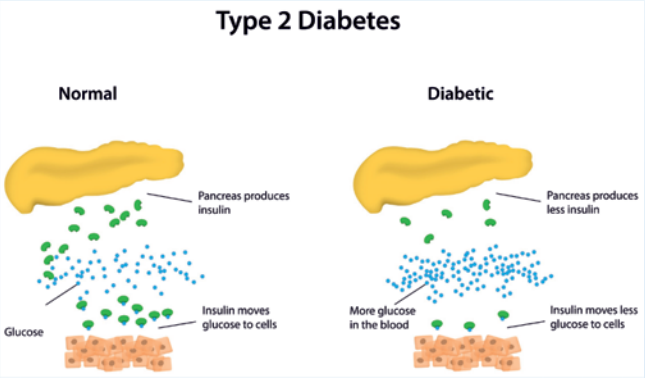
The patient, already a known case of Type 2 Diabetes Mellitus, Hypertension, and Dyslipidemia, required a highly coordinated, personalized treatment approach. He was admitted and immediately started on heparin infusion with Lomodex, and his clotting profile was closely monitored every 8 hours through APTT titration.

This aggressive anticoagulation regimen was balanced with diabetic control using insulin and oral hypoglycemics, alongside supportive medication such as vasodilators and antiplatelets.

From Crisis to Cure: A Successful Outcome:

Thanks to the vigilance and collective expertise of the cardiac team, the patient responded well to treatment.

- No swelling
- No discoloration
- Feeble but stable pulses in the right foot
- Hemodynamically stable throughout hospitalization



He was symptomatically better within days, with no signs of limb deterioration. At the time of discharge:

- **Blood Pressure:** 130/70 mmHg
- **Pulse Rate:** 70/min

- SpO2: 100% on room air
- Afebrile and stable

He was discharged with a comprehensive medication schedule and advised to follow up in the CTVS OPD in two weeks.

Leading with Care – PSG Hospitals' Commitment to Complex Cardiovascular Care

This case stands as a powerful testimony to how early diagnosis, clinical precision, and multi-specialty collaboration can avert major complications - even in patients with multiple comorbidities.

PSG Hospitals' Cardiothoracic Surgery Department continues to redefine excellence in care by combining world-class expertise with advanced protocols and personalized attention.

Because at PSG Hospitals, we don't just treat disease - we restore life, mobility, and hope.