42 YEARS HEALTH & HAPPINESS

Apollo HOSPITALS

APOLLO CHENNAI INSIGHTS

Chennai Unique Cases

MARCH 2026

THE ART OF PRECISION

EXCIMER LASER CORONARY ATHERECTOMY FOR SEVERELY CALCIFIED CORONARY ARTERY DISEASE

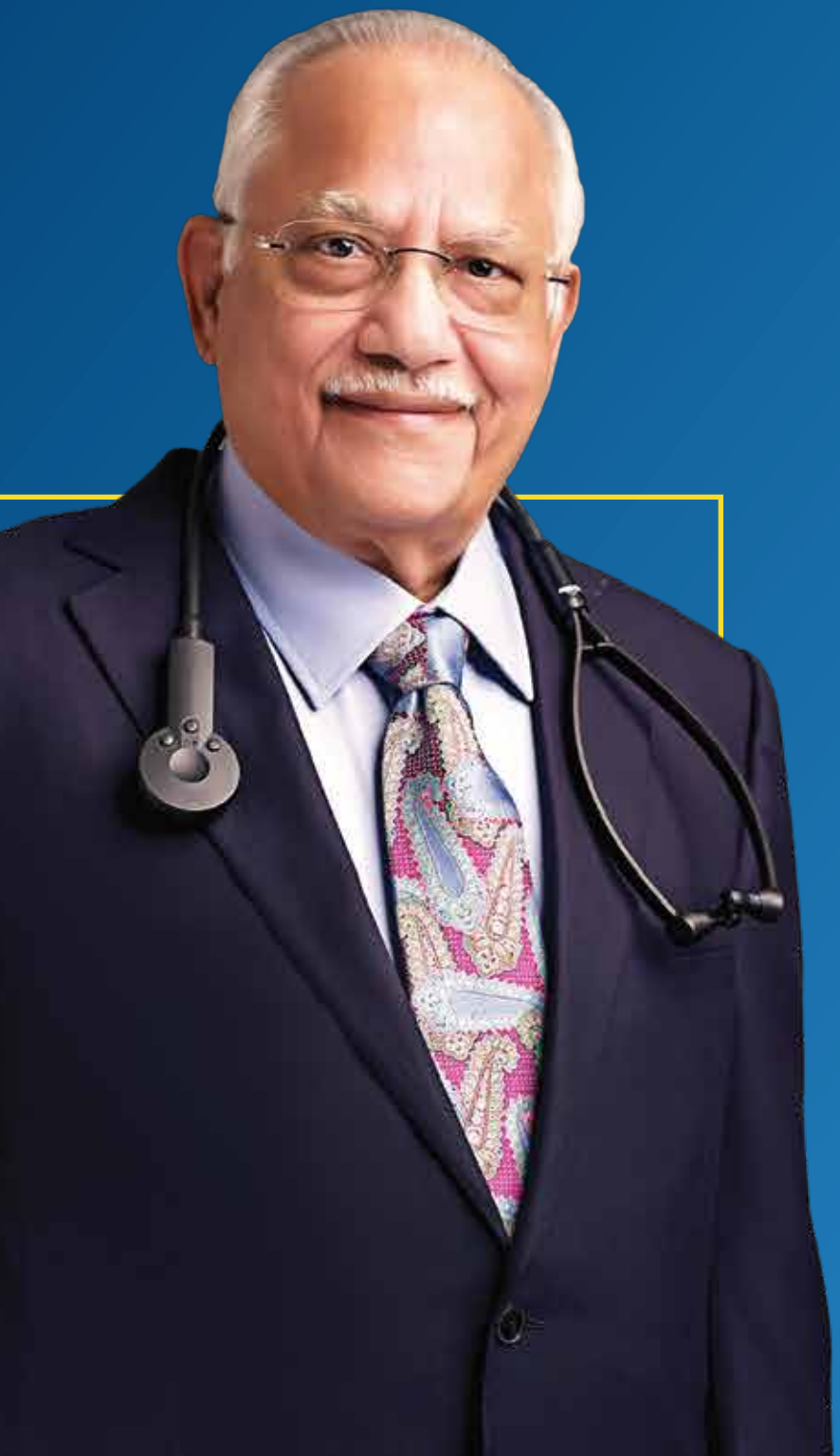
ROBOTIC PANCREATIC RESECTION

HIGH-RISK TRANSCATHETER VALVE IMPLANTATION

SCARLESS ROBOTIC THYROIDECTOMY FOR COMPLEX MEDIASTINAL GOITRE

INDEX

FROM THE CHAIRMAN'S DESK: VISION AND MISSION



Our mission is to bring healthcare of International standards within the reach of every individual.

We are committed to the achievement and maintenance of excellence in education, research and healthcare for the benefit of humanity.

Our vision is to make India as a Global Healthcare Destination.

Dr Prathap C Reddy
Founder & Chairman
Apollo Hospitals

01

Excimer Laser Coronary Atherectomy For Severely Calcified Coronary Artery Disease

DR. SENGOTTUVELU
Consultant - Cardiology

Apollo Hospitals, Greams Road, Chennai

Scan QR To Know More

INTRODUCTION

Severely calcified coronary artery disease presents a significant technical challenge during percutaneous coronary intervention. Dense calcium within the arterial wall can prevent adequate balloon expansion, stent delivery, and optimal stent apposition, leading to suboptimal outcomes. Excimer Laser Coronary Atherectomy (ELCA) is an advanced plaque-modification technique that uses ultraviolet laser energy to modify rigid, calcified lesions and facilitate successful coronary intervention in complex cases.

CASE SERIES OVERVIEW

Dr. Sengottuvelu and team performed two complex coronary interventions using ELCA in patients with severely calcified coronary artery disease where conventional techniques alone were insufficient.

Case 1

A 63-year-old gentleman with a history of prior coronary artery bypass graft surgery presented with significant native vessel disease involving a severely calcified right coronary artery. Angiographic assessment demonstrated dense calcification that

posed a challenge for routine balloon angioplasty and stent delivery.

Excimer laser coronary atherectomy was performed to modify the calcified plaque. Following adequate lesion preparation with laser therapy, balloon dilatation and stent deployment were successfully achieved with optimal expansion and restoration of TIMI 3 flow. The procedure was completed without complications.

Case 2

A 67-year-old gentleman with diabetes mellitus and end-stage renal disease on dialysis presented with critical stenosis in the left anterior descending (LAD) artery. The lesion was heavily calcified to the extent that even intravascular imaging catheter passage was initially not possible.

ELCA was performed to modify the calcific plaque and facilitate lesion crossing. After successful laser modification, the lesion was further prepared and treated with stent implantation. Adequate stent expansion and satisfactory final angiographic result were achieved. The procedure was completed smoothly without peri-procedural complications.

CLINICAL SIGNIFICANCE

These cases highlight the utility of excimer laser coronary atherectomy in managing complex, heavily calcified coronary lesions where conventional balloon-based strategies may fail. ELCA serves as an important adjunctive tool in plaque modification, improving procedural success and enabling optimal stent deployment in high-risk anatomical settings.

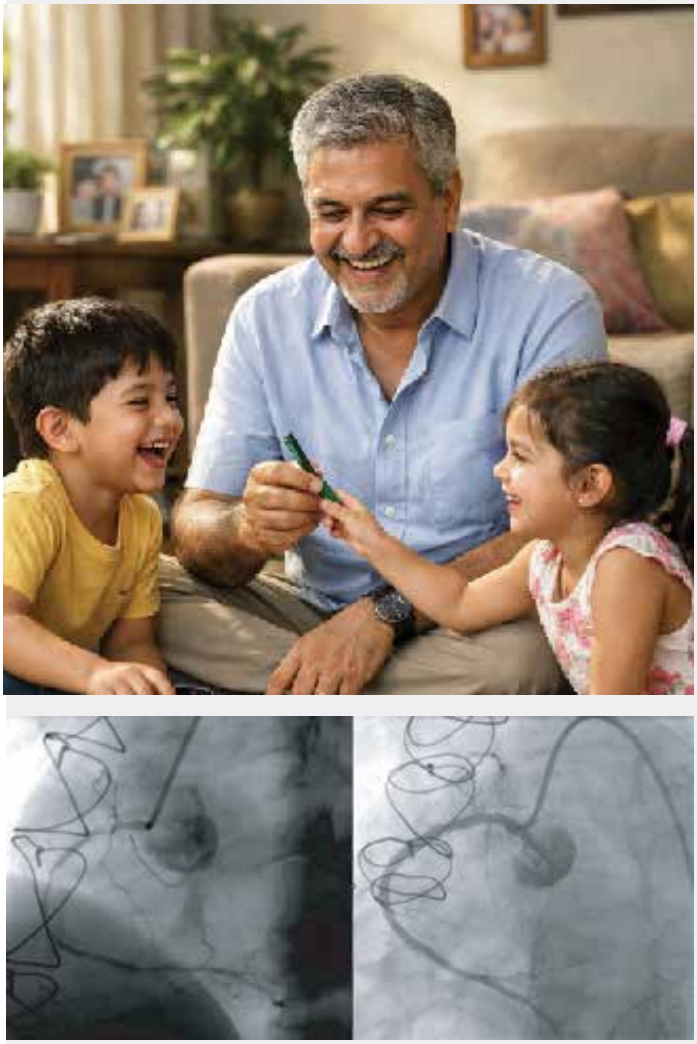


Figure 01

Case 1

Severely calcified right coronary artery (left) with successful plaque modification and restoration of TIMI 3 flow after ELCA and stenting (right).

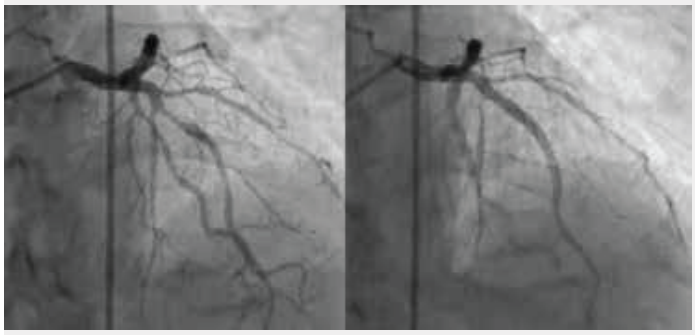


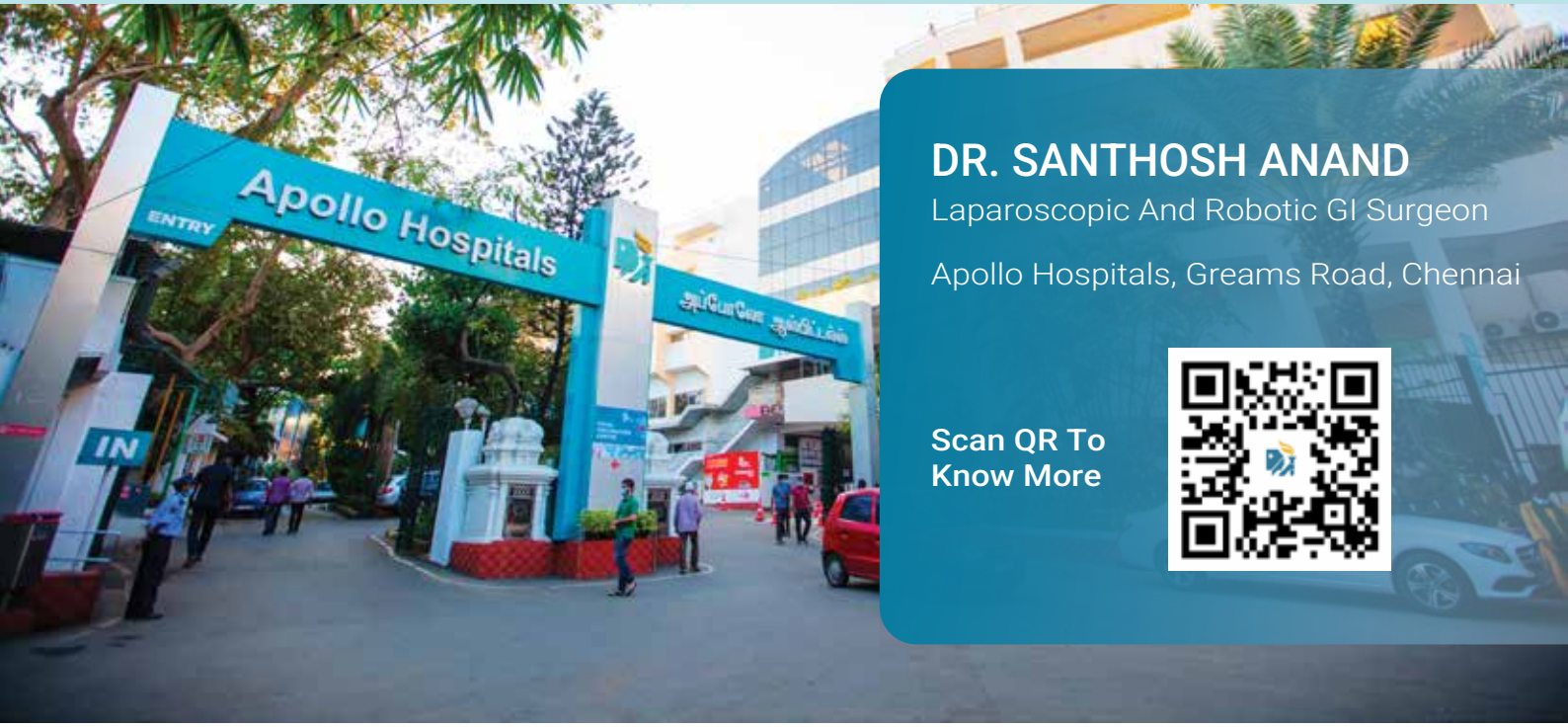
Figure 02

Case 2

Critical calcified LAD stenosis (left) with satisfactory final angiographic result following ELCA-assisted stent deployment (right).

02

Robotic Precision in Complex Pancreatic Resection



DR. SANTHOSH ANAND
Laparoscopic And Robotic GI Surgeon

Apollo Hospitals, Greams Road, Chennai

Scan QR To Know More

CLINICAL OVERVIEW

Patient Profile:

A 50-year-old woman presented with persistent abdominal fullness, nausea, and weight loss.

Diagnosis:

Clinical evaluation identified a neuroendocrine tumour in the head of the pancreas that had spread to the duodenum, causing a physical obstruction.

Intervention:

Dr. Santhosh Anand performed a robot-assisted Whipple's procedure, a highly specialised surgery involving the removal of the pancreatic head, duodenum, gallbladder, and distal bile duct.

THE ROBOTIC ADVANTAGE & TECHNICAL INNOVATION

Meticulous Visualisation:

The robotic platform provided 10x magnification, allowing the surgical team to visualise the main pancreatic duct, which was less than 2 mm in size.

Enhanced Dexterity:

Using 7 degrees of wrist movement on the robotic arm, the surgeon achieved meticulous suturing between the narrow duct and the intestine.

Vascular Safety:

The system’s superior manoeuvrability enabled precise dissection near critical blood vessels, ensuring maximum tumour removal while protecting surrounding healthy tissue.

Superior Anastomosis:

The common bile duct (5 mm) also benefited from the robotic system's dexterity, facilitating a clean and secure anastomosis.

RECOVERY AND CLINICAL OUTCOMES

Rapid Discharge:

Following the procedure and conservative management for delayed gastric emptying, the patient was successfully discharged on post-operative day 5.

Risk Mitigation:

Unlike traditional open surgery, which often results in complications like wound infections and pneumonia, the robotic approach minimises these secondary risks.

Economic Value:

While the upfront cost is higher, the reduced risk of life-threatening complications and shorter hospital stay effectively offset the expenses.

03

Very High-Risk Transcatheter Aortic Valve Implantation In An Octogenarian With Multi-Organ Involvement

DR. REFAI SHOWKATHALI
Senior Consultant,
Interventional Cardiology

Apollo Hospitals, Greams Road, Chennai

Scan QR To Know More

INTRODUCTION

Severe aortic stenosis in elderly, frail patients with multiple comorbidities presents a significant therapeutic challenge. Delay in definitive management can lead to progressive left ventricular dysfunction and secondary involvement of other organ systems. Transcatheter Aortic Valve Implantation (TAVI) offers a minimally invasive alternative for patients deemed high risk for surgical valve replacement, but in complex multi-organ failure scenarios, the procedure itself carries substantial risk and requires meticulous multidisciplinary planning

CLINICAL PRESENTATION

Mr. S, an 85-year-old gentleman from Guwahati, Assam, a known hypertensive, presented with progressive breathlessness and chest discomfort on minimal exertion over the past few months. He had been diagnosed with severe aortic stenosis in 2019 but was managed conservatively due to advanced age and frailty, having been considered high risk for intervention at that time. With worsening symptoms significantly limiting his daily activities, he sought further evaluation. On reassessment, he was found to have persistent severe aortic stenosis. However, his left ventricular

dysfunction and an estimated ejection fraction of 30%, compared to normal values of around 60%.

During further evaluation, he was also found to have anemia and significant thrombocytopenia. While under hospital care, his condition further deteriorated with development of viral pneumonia, worsening renal function, and eventual need for emergency intubation and mechanical ventilation. He had a prolonged stay in the intensive care unit

TREATMENT

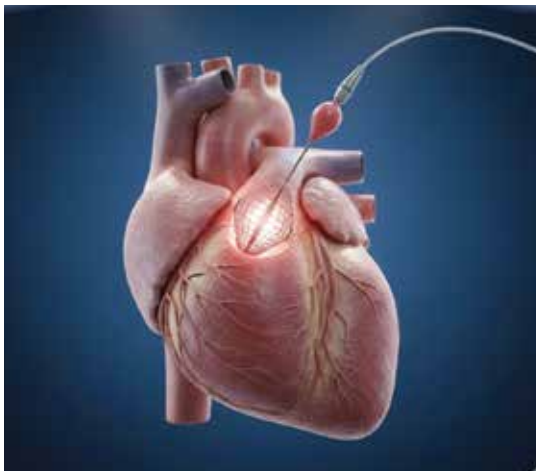
The patient underwent TAVI on 21 January 2026 with meticulous planning and coordinated multidisciplinary support. The procedure was completed successfully without intra-procedural complications and without the need for ECMO support.

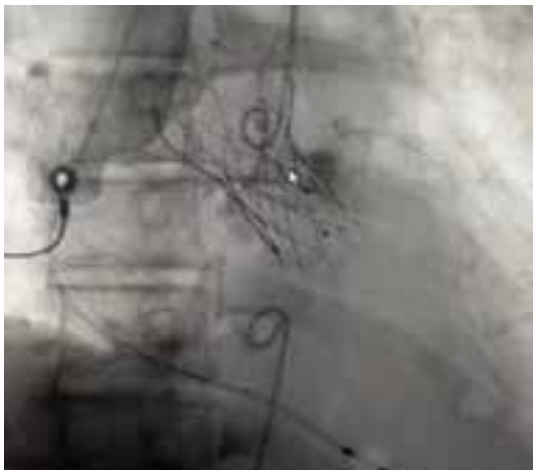
POSTOPERATIVE COURSE & FOLLOW-UP AND OUTCOME

The patient was successfully extubated the following day. Gradual clinical improvement was observed in cardiac function, renal parameters, pulmonary status, and hematological indices. He was mobilized over the subsequent days and discharged three to four days after the TAVI procedure in stable condition.Repeat echocardiography performed a few days after the procedure showed significant improvement in left ventricular ejection fraction from 30% to 50%. The patient demonstrated marked symptomatic relief and overall functional recovery.

CLINICAL SIGNIFICANCE

This case highlights the importance of timely intervention in severe aortic stenosis, even in very elderly and frail patients with multi-organ dysfunction. It underscores the critical role of multidisciplinary collaboration, detailed procedural planning, and availability of advanced mechanical circulatory support in successfully managing extremely high-risk structural heart interventions. Careful risk stratification and stepwise strategy implementation were central to achieving a favorable outcome in this complex case.





Intra-procedural fluoroscopic image demonstrating transcatheter aortic valve implantation with catheter and device positioning across the native aortic valve.

04

Scarless Robotic Thyroidectomy for Complex Mediastinal Goitre

K.S. THALAVAI SUNDARRAM
Mch Endocrine surgery., FARIS .

Apollo Hospitals, Greams Road, Chennai

Scan QR To Know More

CLINICAL OVERVIEW

Patient Profile:

A 47-year-old woman presented with a neck swelling that had persisted for 11 years, followed by a rapid increase in size over the last two months.

Diagnosis:

Imaging (CECT) revealed a large, heterogeneous lesion on the left lobe with a retrosternal extension reaching 2 inches into the mediastinum. USG-guided FNAC confirmed a Follicular Neoplasm.

Intervention:

Dr. K.S. Thalavai Sundarram performed a RABIT (Robotic Assisted Axillo-breast Insufflation Thyroidectomy), a remote-access procedure that removes the thyroid without a neck incision.

TECHNICAL INNOVATION & SURGICAL CHALLENGES

Complex Anatomy:

The procedure addressed significant anatomical hurdles, including thyroiditis, obesity, and a short neck profile.

Critical Proximity:

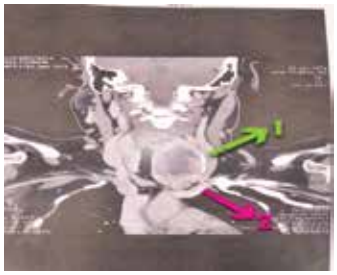
The goitre was wedged into the thoracic inlet and was in close relationship to the Arch of the aorta, the Innominate vein, and the Subclavian vein.

Precision Dissection:

The robotic system facilitated the safe separation of the goitre from the Internal Jugular Vein (IJV), despite existing adhesions.

Remote Access:

By using axillary and breast ports, the team successfully managed the retrosternal component without the need for a sternotomy.



RECOVERY AND CLINICAL OUTCOMES

Preservation of Function:

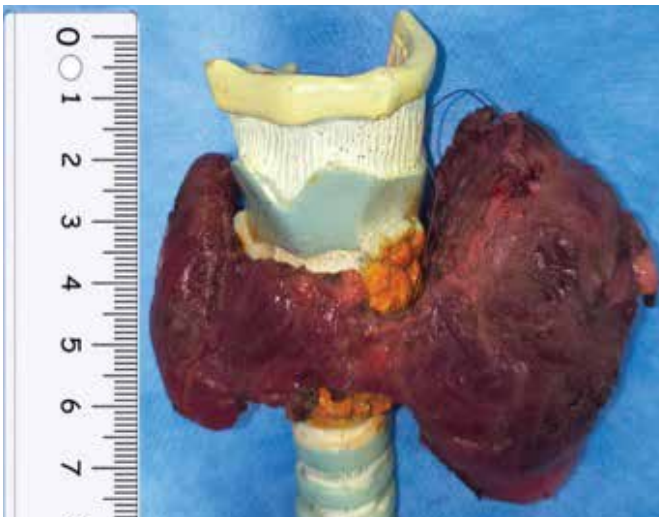
The post-operative period was uneventful, with a specific focus on the preservation of the laryngeal nerves (no voice changes) and parathyroid function (no hypocalcaemia).

Aesthetic Superiority:

The patient was discharged on post-operative day 2 with no visible scarring on the neck.

Rapid Recovery:

Despite the complexity of a 2-inch mediastinal extension, the minimally invasive robotic approach allowed for a swift return to daily activities.



Specimen

Remote Access ports

POD 2 picture

Apollo HOSPITALS

APOLLO HOSPITALS

21, Greams Lane, Off Greams Road,
Thousand Lights, Chennai 600 006.

For Specialist Consultations & Collaborations:
044-4040 1066

Email: infochennai@apollohospitals.com