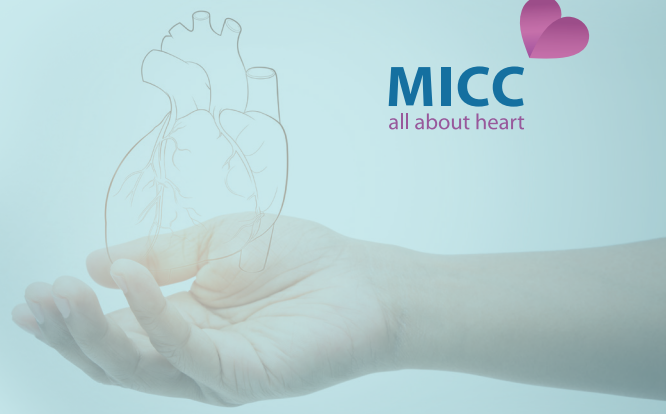


# The Heart Matters

MICC Medical Bulletin



**Dr. P. P Mohammed Musthafa**

MD (General Medicine), DM(Cardio), F-Card, FACC  
Chairman & Chief of Cardiology

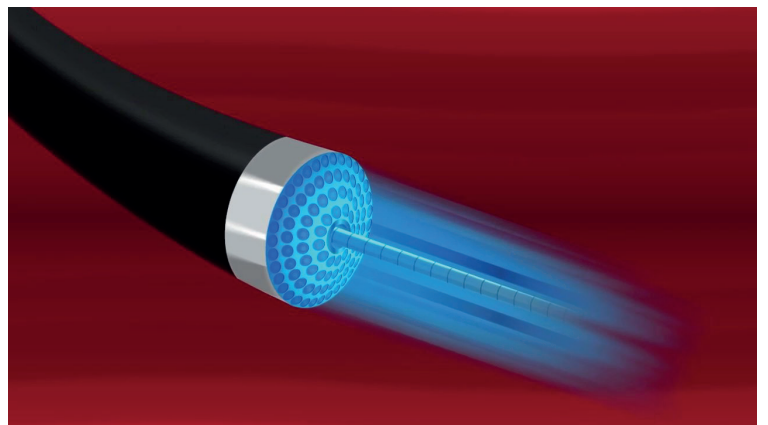
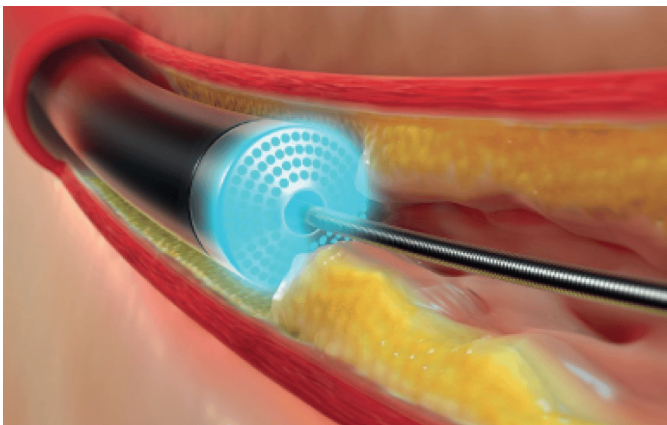
Panel of Interventional Cardiology :

Dr. Muhamed Shalooob, Dr. Arun Gopi, Dr. Girish PV, Dr. Ashwin Paul Kooran, Dr. Amira Ali Shaik, Dr. Arun Kumar

## **PIONEERING CARDIAC CARE WITH LASER ANGIOPLASTY** MICC Introduced “LASER ANGIOPLASTY” for the first time in North Kerala, a significant advancement in cardiac care.

### **LASER ANGIOPLASTY**

Cardiovascular disease remains a leading cause of death worldwide, these diseases often result from the build up of fatty plaques within the arteries, leading to reduced blood flow and in severe cases, life-threatening complications. Treatment options for CVD are medications, lifestyle modifications, interventions like angioplasty and stent placement and bypass surgeries. Traditionally, complex blockages could only be treated with bypass surgeries. However, thanks to continuous advancements in cardiology, we can now address even more complex blockages through angioplasty. Laser angioplasty is one of the latest additions in the field of cardiology. It is a minimally invasive procedure used to treat complex blockages or narrowings in coronary and peripheral arteries. Laser angioplasty uses laser energy to vaporize or remove plaque buildup in significant rate. This approach is particularly useful in cases where balloon angioplasty alone may be insufficient due to calcified or otherwise stubborn plaque.

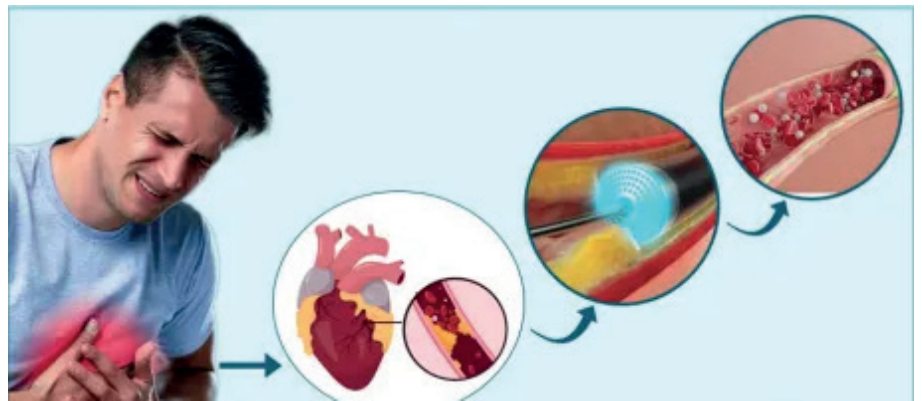
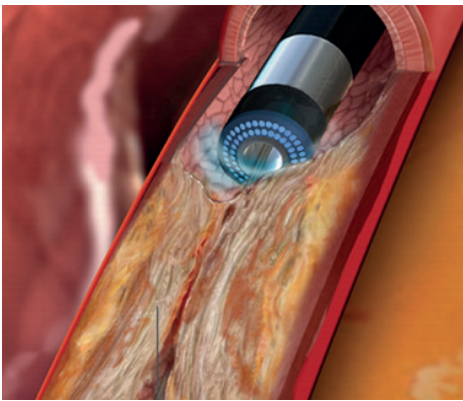


## How it works?

A thin guidewire is inserted into the affected artery and advanced to the site of the blockage, guided by fluoroscopy. A specialized laser catheter, equipped with a fiber optic tip, is inserted over the guidewire and positioned at the site of the blockage. Once the laser catheter is in place, the surgeon activates the laser, delivering high-energy pulses of light to the plaque. The laser energy vaporizes or ablates the plaque, creating a channel within the artery. In some cases, balloon angioplasty is performed after laser ablation to further widen the artery and ensure that it remains open. A stent / Drug Coated Balloon (DCB) may also be used to provide long-term support to the artery. After the procedure is completed, the catheter is removed, and the incision site is closed. By effectively removing plaque, laser angioplasty can lead to improved long-term outcomes and reduce the need for repeat interventions.

## Where to use?

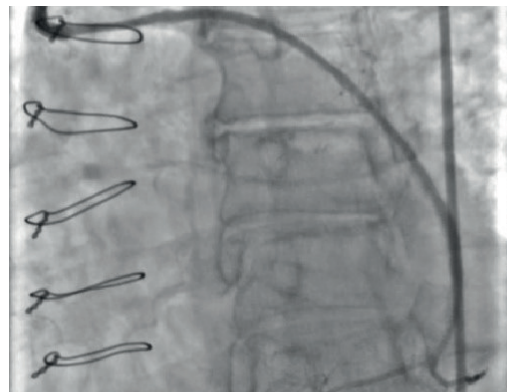
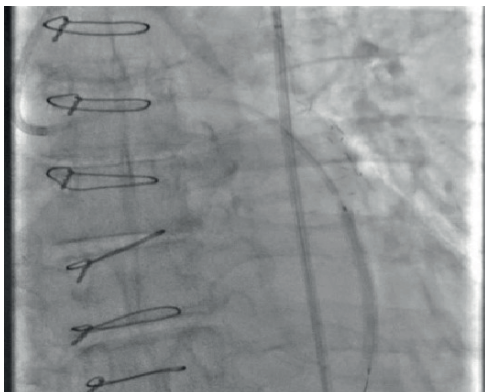
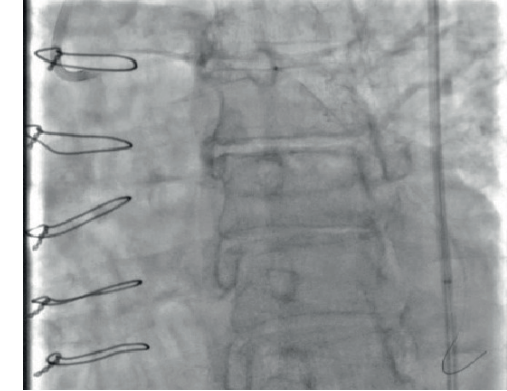
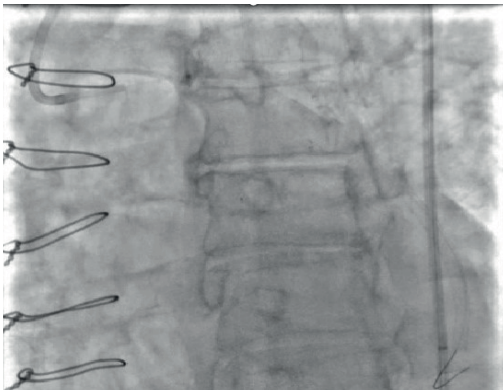
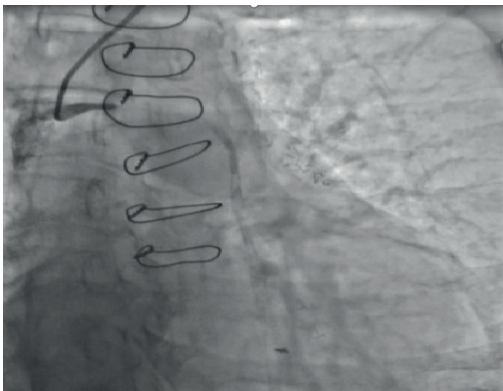
- Calcified coronary / peripheral vascular disease
- Restenosis (recurrence of blockage in a previously stented segment)
- Chronic total occlusions
- Heavy thrombus burden lesions (mostly seen in late presentation MI)
- SVG graft interventions in post bypass surgery cases
- Failed conventional angioplasties



## Our Clinical Experience at MICC

A 78-year-old hypertensive male with a history of CAD, S/P CABG x 4 grafts in 2016, and S/P PTCA + stenting to SVG to PLV in 2020 presented with exertional angina. ECG and ECHO were within normal limits. He was advised to undergo an angiogram due to the worsening of exertional symptoms in the recent past, despite the use of antianginals. CAG and graft angiogram were performed via the right femoral approach, which showed native LM + TVD with patent LIMA to LAD, SVG to D1 and PDA, and occluded SVG to PLV. It was a case of in-stent restenosis on the SVG graft, for which laser angioplasty was advised.

JR3.5/7F guiding catheter was engaged into SVG to PLV graft and 0.014 fielder FC wire was used to cross the occlusion in mid segment of PLV graft. LASER ATHERECTOMY was done 6F guide plus support from proximal to distal of SVG to PLV graft with 0.9mm ELCA catheter, multiple cycles were given with fluence 80mJ/mm<sup>2</sup> at the rate of 80 pulse/sec for a total of 5 minutes and 22 seconds. Post laser lesion (ISR) was treated with 3 X 40MM drug coated balloon (DCB). Final check angiogram showed good result with TIMI III flow. He was discharged in a stable condition on the 3rd day. Now patient is symptoms-free and on regular follow-up in the OPD. We have successfully done 30 cases of laser angioplasty till date.





# NO MORE WORRIES ABOUT BLOCKS

## Laser Angioplasty Has Arrived

MICC advances heart care with laser angioplasty, offering a permanent solution for calcified blockages that cause heart attacks. This minimally invasive procedure is quick, with a high success rate, and promises to revolutionize cardiac treatment by providing a safer and more effective option for patients.



Philips Laser System — Nexcimer

Here are the special clinical situations where laser angioplasty is very useful:

- Calcium deposits
- Recurrent blockages in previously stented segments
- Blockages in patients with prior bypass surgery
- Severe clots that are unresponsive to traditional angioplasty

### MICC- A Trusted Name for Complex Cardiac Procedures in Kerala

24 X 7 Cardiology Emergency Department	Coronary Care Unit	Adult & Paediatric Cardiac Unit	Adult & Paediatric Surgery Unit	Electrophysiology Unit	Heart Failure Clinic	Heart Transplantation	TAVI Procedure

### MICC's LASER ANGIOPLASTY in the Media

**Laser angioplasty treatment successfully performed at MetroMed International in Kozhikode**

The first laser angioplasty treatment in north Kerala was successfully performed by Dr. P.P. Mohammed Mustafa, Chief Cardiologist, and Senior Cardiologists Dr. Arun Gopi, Dr. P.V. Girish, and Dr. Ashwin Paul at MetroMed International Cardiac Center in Kozhikode, a press release said.

**മെട്രോമെഡ് കാർഡിയോക് സെന്ററിൽ ലേസർ ആൻജിയോപ്ലാസ്റ്റി**

കേരളത്തിലെ ആദ്യ ലേസർ ആൻജിയോപ്ലാസ്റ്റി ചികിത്സ കേന്ദ്രമായി മെട്രോമെഡ് കാർഡിയോക് സെന്റർ

**വടക്കൻ കേരളത്തിലെ ആദ്യ ലേസർ ആൻജിയോപ്ലാസ്റ്റി ചികിത്സ കേന്ദ്രമായി മെട്രോമെഡ് കാർഡിയോക് സെന്റർ**

**ലേസർ ആൻജിയോപ്ലാസ്റ്റി വിജയകരമായി നടത്തി മെട്രോമെഡ്**

ഉത്തരകേരളത്തിൽ ആദ്യം

**മലയാള മനോരമ**

**മെട്രോമെഡ് കാർഡിയോക് സെന്ററിൽ ലേസർ ആൻജിയോപ്ലാസ്റ്റി**

**സുപ്രഭാതം**

**ഉത്തര കേരളത്തിൽ ആദ്യം ലേസർ ആൻജിയോപ്ലാസ്റ്റി ചികിത്സയുമായി മെട്രോമെഡ്**

**ജനയൂഗം**

**വടക്കൻ കേരളത്തിലെ ആദ്യ ലേസർ ആൻജിയോപ്ലാസ്റ്റി ചികിത്സയുമായി മെട്രോമെഡ് ആക്രമി**

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