



INSTITUT JANTUNG NEGARA
National Heart Institute

MEDIA RELEASE

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IJN INTRODUCES NEW PROCEDURE THAT USES SONIC WAVES TO TREAT SEVERE CALCIFIED ATHEROSCLEROSIS

KUALA LUMPUR, Feb 22, 2021: Institut Jantung Negara (IJN) today revealed a newer and safer method to treat heart patients suffering from severe atherosclerosis.

The procedure, called Intravascular Lithotripsy (IVL) which is FDA approved, makes use of sonic waves to break down hard calcified plaque accumulated in the arteries.

Successfully performed by doctors at IJN here today, this is the first time IVL has been performed in Malaysia.

Atherosclerosis is a condition where cholesterol, fats, and calcium deposits form plaque in the arteries. The accumulation of this plaque causes narrowing of arteries and limited blood flow. When discovered early, atherosclerosis can be treated with lifestyle changes and medication to slow down or even reverse the build-up of plaque.

More serious blockages meanwhile, are commonly treated using angioplasty and stent placement. This involves using a small balloon attached to catheter, which is delivered to the site of the blockage through blood vessels. The balloon is then inflated to expand the artery and push aside the plaque; a stent is then placed to keep the artery open for good blood flow.

However, angioplasty may not be useful in severe cases where the plaque has hardened and become calcified.

“When the plaque has hardened to that extent, patients may have to undergo an invasive surgical procedure to treat the condition – where doctors have to surgically remove the plaque or even perform a graft bypass to ensure good blood flow,” says Dato’ Dr. Amin Ariff Nuruddin, Senior Consultant Cardiologist.

“In this regard, IVL offers us a minimally-invasive treatment option that lessens the risks of surgery for these patients.”

Similar to angioplasty, IVL utilises a catheter with a balloon attached. The difference is the balloon generates sonic pressure waves to break the plaque, instead of just physically pushing it away which may not be possible in this ‘hard calcified’ plaque. This will allow blood vessel lumen expansion and optimize stent deployment at the narrowed vessel area.

Dr Amin adds that beside the ease of use of the device, it also reduces the trauma to the tissue, as it selectively pinpoints the blockage.

“This in turn minimises the risk of the patient developing other complications following the procedure as compared to the other current debulking devices presently available,” Dr Amin said.

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About Institut Jantung Negara Sdn. Bhd.

Institut Jantung Negara (IJN) was set up in 1992 and is dedicated to the management and treatment of heart diseases by providing cardiology, paediatric cardiology and cardiothoracic surgery services for adults and children.

Today, IJN is reckoned to be among the best medical centres for cardiovascular and thoracic care in Malaysia and the region. IJN has kept abreast with the latest medical advances, from handling a simple hole in the heart surgery to heart and lungs transplantations.

With a strong commitment to be a global heart care centre of excellence, IJN has paved the way by creating many “firsts” for cardiovascular and thoracic care in the country, namely:

- 1. 1st in SEA to introduce AXXESS Stent to treat bifurcation lesions*
- 2. 1st in Asia to introduce Renal Denervation – a radio frequency ablation procedure to treat patients with resistant hypertension*
- 3. 1st in the SEA to implant Bio resorbable Vascular Scaffold – a new stenting device*
- 4. 1st in the country to implant the Watchman device to reduce the risk of stroke in patient with AF*
- 5. Introduced HeartMate II – a new mechanical heart assist device as a bridge to transplantation in 2010*
- 6. 1st in Malaysia to perform Transcatheter Aortic Valve Implantation (TAVI)*
- 7. 1st in Malaysia to perform minimally invasive lobectomy for lung disease*
- 8. 1st in the country to perform minimally invasive procedure to repair congenital chest deformity called “Pectus Excavatum” and “Pectus Carinatum”*
- 9. 1st in Malaysia to perform a double heart transplantation (redo) within 24 hours*
- 10. 1st to perform keyhole (endoscopic) surgery to treat lone atrial fibrillation in Asia and Australasia in 2006*
- 11. 1st to perform single and double lungs transplant*
- 12. 1st to perform the implantation of an Implantable Ventricular Assist Device (IVAD).*
- 13. 1st medical institute in the country and the Southeast Asean region to perform coronary bypass surgeries and complex thymectomy procedures on conscious or ‘awake’ patients without general anesthesia.*

14. *1st in Malaysia to perform bone marrow stem cell transplantation in patients suffering from severe ischemic heart disease with no other treatment options.*
15. *1st medical institute to conduct a homograft procurement to facilitate heart transplant.*
16. *1st medical institute in the country to perform a heart transplant.*

17. *One of the first in the region to perform detailed mapping for complex arrhythmia.*
18. *1st medical institute in the world to Implant a Bio-absorbable Pulmonary Valve Conduit*
19. *1st medical institute in Malaysia to carry out the complete replacement of the aorta.*
20. *1st in the world 2nd Generation smallest pacemaker*
21. *1st in Asia to perform Peripheral Arterial Disease procedure with Vasculflex Multi-LOC device*
22. *1st in Malaysia to implant dual chamber pacemaker system in a pregnant patient using non-fluoroscopic imaging*
23. *1st outside of United States to Implant Micra AV Pacemaker*
24. *The 1st in ASEAN region to implant MyVal a device with the latest technology to treat aortic stenosis*
25. *The 1st in Malaysia, Intravascular Lithotripsy (IVL) to treat severe calcified atherosclerosis*

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