IJN Makes Regional History

Southeast Asia's First Implantation of Revolutionary Aurora EV-ICD

In a significant milestone for cardiac care in Southeast Asia, the Institut Jantung Negara (IJN) has successfully implanted the Aurora Extravascular Implantable Cardioverter Defibrillator (EV-ICD), a first-of-its-kind device developed by Medtronic.

The historic procedure, led by Datuk Dr Azlan Hussin, Clinical Director of Electrophysiology and Implantable Devices, marks the region's inaugural use of the novel technology and places Malaysia at the forefront of innovation in cardiovascular medicine.

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Datuk Dr Azlan Hussin,
Clinical Director of Electrophysiology and Implantable Devices, IJN

Implanted in a patient currently recovering as expected, the Aurora EV-ICD is designed to prevent sudden cardiac death in individuals experiencing abnormally fast and potentially fatal heart rhythms, also known as ventricular arrhythmias. Unlike conventional implantable cardioverter defibrillators (ICDs), which rely on leads inserted directly into the heart through veins, the Aurora EV-ICD system resides outside the vascular space — a game-changing shift in the way life-saving electrical therapy is delivered.

"This is an out-of-the-box solution," said Dr Azlan. "Traditional ICDs have wires that pass through the veins and into the heart, which can lead to long-term complications like blood infections or difficulties in patients with vascular blockages. The EV-ICD eliminates many of those risks by positioning the lead outside the heart and veins."

The device monitors the heart rhythm continuously, and if it detects life-threatening arrhythmias, it delivers a precisely timed shock to restore normal rhythm. It also offers anti-tachycardia pacing (ATP) and temporary pacing support for slow heart rates or post-shock pauses — all through a single implantable system. Notably, it is the only extravascular ICD that provides ATP, offering a critical layer of protection in an alternative anatomical approach.

The Aurora EV-ICD system is similar in size, shape, and longevity to traditional, transvenous ICDs. (Source: Medtronic)

Beyond its mechanical innovations, the Aurora EV-ICD boasts impressive clinical results. A global study involving 356 patients across 46 hospitals found a defibrillation success rate of 98.7%. Published in *The New England Journal of Medicine*, the trial also reported no major system- or procedure-related complications within six months of implantation.

The Aurora EV-ICD is also MRI-compatible and integrates with Medtronic's CareLink network, a digital platform that enables remote monitoring by healthcare providers. This allows clinicians to proactively manage patient care and intervene early if any issues arise.

The device is nearly half the size of existing subcutaneous ICDs (S-ICDs) and offers a 60% increase in projected battery life. This could translate into fewer replacement surgeries, reduced procedural risks, and potentially lower overall healthcare costs for patients and providers.

For patients who require defibrillator therapy but cannot tolerate traditional systems — such as those with limited venous access or high infection risk — the Aurora EV-ICD may represent a long-awaited option. By preserving vascular integrity and reducing long-term complications, this next-generation device may set a new standard in the treatment of life-threatening arrhythmias.

As IJN continues to pioneer new frontiers in cardiovascular medicine, today's landmark procedure represents more than just a technological achievement. It offers hope — and a safer, more sustainable future — for patients across the region.

What Makes the Aurora EV-ICD a Game Changer

REGIONAL FIRST!
IJN is the first in Southeast Asia to implant the Aurora EV-ICD.

OUT-OF-THE-VEIN INNOVATION
Unlike traditional ICDs, the Aurora EV-ICD has no leads inside the veins, reducing long-term complications.

HIGH SUCCESS RATE
Clinical trials showed a 98.7% defibrillation success rate — nearly flawless!

FIRST-OF-ITS-KIND
Aurora EV-ICD is the only extravascular device that can deliver Anti-Tachycardia Pacing (ATP).

MINI BUT MIGHTY
The device is nearly 50% smaller than current S-ICDs — with 60% longer battery life.

SMART MONITORING
Connects to Medtronic's CareLink system for remote monitoring, so doctors can track patients anywhere.

MRI-COMPATIBLE
Patients with Aurora EV-ICD can safely undergo MRI scans — a rare feature in ICDs.

MADE FOR TOUGH CASES
Ideal for patients with blocked veins or high infection risk, preserving vascular integrity.