ICD – YOUR BEST INSURANCE AGAINST CARDIAC ARREST

ICD is a device that is placed in the chest with connecting wires to the heart to monitor and correct episodes of rapid heartbeat. It can give your heart electric pulses or shocks to get your heart rhythm back to normal. If you have been found to be at recurring risk of heart rhythm problems such as ventricular tachycardia or ventricular fibrillation (when the heartbeat is both fast and irregular), an ICD may be your best insurance against cardiac arrest. Recent studies have confirmed the usefulness of the ICD in addition to optimal medical therapy. The ICD protects these patients at risk from premature deaths due to life-threatening erratic heart rhythm.

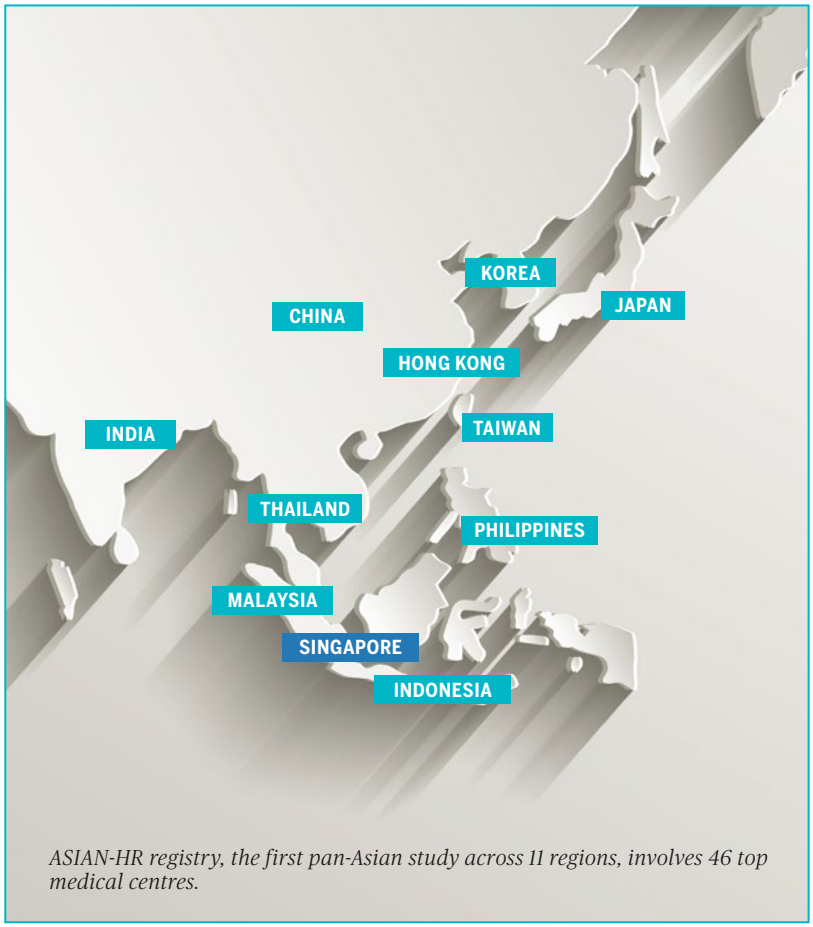
HEART FAILURE IN ASIA – WHAT DO WE KNOW NOW?

Professor Lam and her co-investigators analysed 5,276 patients with heart failure and reduced ejection fraction (HFrEF, also known as systolic HF) in the Asian Sudden Cardiac Death in Heart Failure (ASIAN-HF) registry whom they have followed up on since 2012, when the registry was set up. Ejection fraction (EF) refers to the percentage of blood that is ejected out of the ventricles with each contraction, and a low EF means that there is weakness of contraction or "pump failure". The ASIAN-HF registry is the first pan-Asian study across 11 regions on the impact of ICDs on mortality in Asian patients with heart failure and reduced ejection fraction.

ICD: UTILISATION RATE IN ASIA

Singapore ranked third in Implantable Cardioverter Defibrillator (ICD) eligibility, however its ICD utilisation is below the Asian average, ranking fifth after Japan, Hong Kong, China and Thailand.

A prospective multinational data study on Asian heart failure patients conducted by Professor Carolyn Lam, Senior Consultant, Department of Cardiology, National Heart Centre Singapore, who is also the Principal Investigator of the study, revealed findings that there is a low utilisation of ICD in Asia despite its significant life-saving capability.



ASIAN-HR registry, the first pan-Asian study across 11 regions, involves 46 top medical centres.

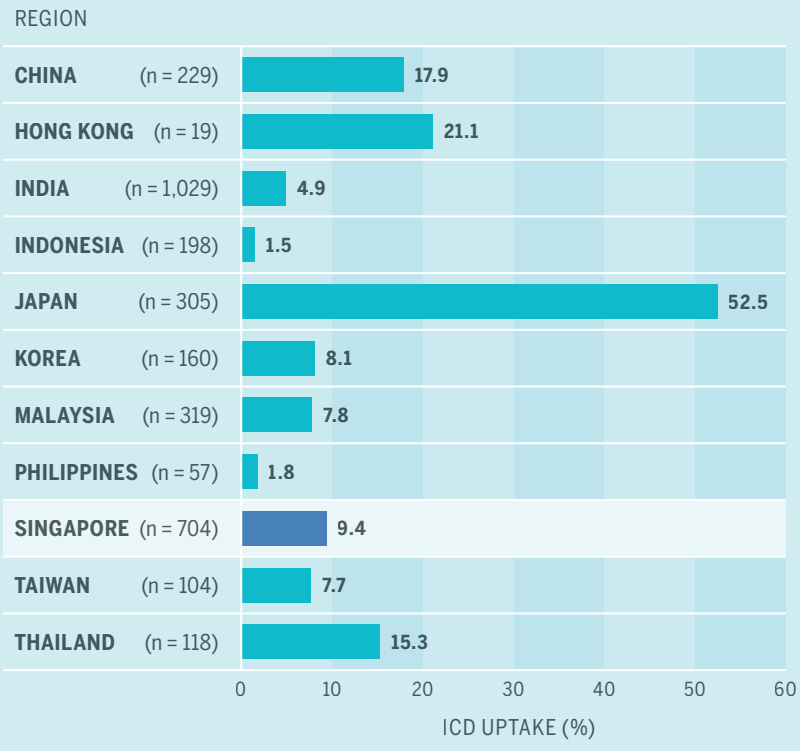
Despite being younger than their Western counterparts, comorbidities were highly prevalent among Asian patients (two-thirds of patients had two or more comorbidities), with Southeast Asian heart failure patients, in particular, having the highest risk profile in Asia. In addition, the utilisation of ICDs in Asia was very low, with disparity across geographic regions and socioeconomic status.

"Over a median follow-up of 417 days, the study showed that ICD implantation reduced risks of all-cause mortality and sudden cardiac deaths," said Professor Lam.

Professor Lam continued, "Even though ICDs are known to be life-saving devices in patients with HFrEF, utilisation and determinants of ICD insertion in Asia remain poorly defined. In Singapore, almost two-thirds (704 patients, 66.0%) out of a total of 1,066 patients were eligible for an ICD implantation for primary prevention of sudden cardiac death, yet only 66 (9.4%) of them received an ICD. This is despite that Singapore has one of the highest ICD eligibility rates in Asia, after India (71.7%) and Indonesia (67.7%). The average ICD eligibility rate across Asia is 61.4%."

Singapore's ICD utilisation rate falls below the Asian average of 12.0%, and it is far lower than that of Japan, which has the highest ICD utilisation among the Asian countries studied of 52.5%. Some possible reasons for the low ICD utilisation rate in Singapore and across Asia (except Japan), according to Professor Lam, could be socio-cultural factors (such as the unwillingness to have an unnatural object in their body) and lack of knowledge on the advantages of ICD. Among the ICD recipients in Asia, the study also showed that they were likely to be older, have tertiary education and reside in a high income region.

ICD UPTAKE (%) BY REGIONS



TOWARDS BETTER HEALTHCARE OUTCOMES

In summary, this is the first prospective multinational data on ICD utilisation among patients with HFrEF across Asia. While a myriad of complex factors influenced the low and heterogeneous ICD utilisation within Asia, better patient education and targeted healthcare reforms present opportunities for optimum public health intervention to improve the outcomes of heart failure patients.

ALL YOU NEED TO KNOW ABOUT AN ICD

An implanted device which monitors the heart rhythm continuously.

When an abnormal heart rhythm is detected, the ICD will deliver an electric shock to restore a normal heartbeat.

An established therapy for the prevention of sudden cardiac deaths.

WHO NEEDS ICD?

- If you have potentially life threatening heart rhythms such as ventricular tachycardia or fibrillation
- If you have a high risk of sudden cardiac death