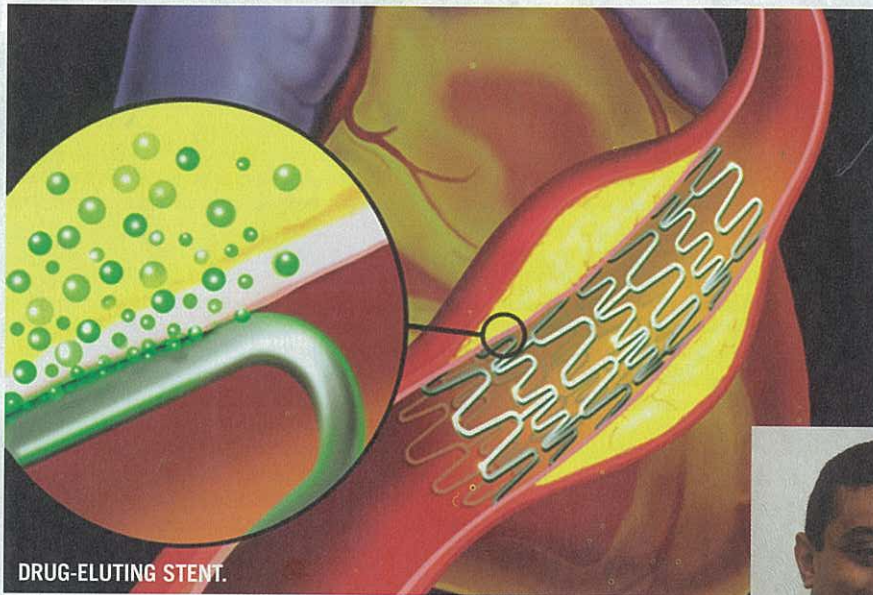


Heart Attack, No Ordinary Tale

Drug Eluting Stents and Drug-Eluting Balloons have given patients a new lease on life.



DRUG-ELUTING STENT.

The story of Thaddeus Cheong, a young Singaporean athlete, is definitely no ordinary tale. It was 2007 when this young lad, a 17 year old athlete met his fate. His young life ended only 90 minutes after he reached finish line in a triathlon competition. Singapore was shocked as a Nation. Thaddeus died of a cardiac arrest. He suffered from a hitherto undetected cardiac condition. "Unfortunately, a cardiac arrest can happen without any pre-existing symptoms," said Dr. Dinesh Nair, a Cardiology specialist from ParkwayHealth, Singapore. Just a few months ago, probably the most famous footballer in Singapore history, collapsed on a football pitch during a charity game while playing football. His name was Dollah Kassim and he was 60 yrs old. He had previously undiagnosed heart disease and was resuscitated for 20 minutes on the way to hospital where Dr Dinesh and his partner performed emergency surgery on him. "He survived. Athletes and normal people who are aging, and who want to participate in vigorous sports activities should have a full health screen especially a proper and detailed heart examination before embarking on any such programme" explains Dr Nair.

The Cardiology Research Center in Singapore has tracked sudden death in the country from 2001 to 2003 and found that at least 300 peo-

ple aged between 18 and 60 died suddenly each year. Given the difference in population size between Indonesia and Singapore, Dr. Dinesh mentioned that the number would be much higher in Indonesia. According to him, sudden cardiac death occurs only several minutes after someone loses consciousness. It often happens to apparently healthy individuals without any previous complaints of heart disease, but who have undetected heart problems.

When we met him last week in Jakarta, this Cardiology Consultant for Mount Elizabeth Hospital, Singapore who had subspecialist training in Singapore, England and Germany, said that sudden death may be caused by several problems. "The dominant cause in more than 80 percent of cases is due to blockages in the heart arteries," he said. This is particularly evident in patients over the age of 35 and is most often caused by a heart attack caused by rupture of a cholesterol plaque in a heart artery. Congenital factors predominate for those under the age of 35 years.

Apart from paying attention to medical history, preliminary assessment is extremely important. A few tests are relatively easy and affordable with quite good results. Among of

them are ECG, Echocardiography, Stress Test, Invasive Electrophysiology Study and Invasive Coronary Angiography.

To come up with a more accurate diagnosis, several other tests are also needed. They could be Nuclear Perfusion Scan or Multi Slice CT Scan. "Nuclear Scan Perfusion is a test for patient who cannot run and it can detect arterial anomalies with an accuracy of up to 85 - 90 percent," said Dr. Dinesh. CT Scan Multi Slice is another device with a 85 - 90% accuracy, which is useful for preliminary screening for coronary disease or other inherited anomalies, and is widely gaining acceptance. However, these tests require significant experience and training for the appropriate interpretation to be made.

Sudden death as explained by Dr. Dinesh, is sometimes caused by a malfunction of the heart's "electrical system". Because of this malfunction, the electrical signal for the heart to pump is lost and the heart fails to beat. Once diagnosed with this problem, several treatments are possible, depending on the cause. Angioplasty or the placement of a stent or Coronary artery Bypass surgery can treat the blocked arteries that most often cause this. If the

problem cannot be treated, a ICD (Implantable Cardioverter Defibrillator) can be implanted in a similar fashion to a pacemaker, to provide an electrical shock to restore the original rhythm of the heart and subsequently save lives.

The most performed coronary disease treatment procedure nowadays is PCI (Percutaneous Coronary Intervention). With PCI, the doctor uses catheter and unblocks the clogged artery with a balloon and keeps it open with a stent (resembling a steel ring).

The good news is that PCI techniques and results have been advancing at a tremendous rate.

"Drug-Eluting Stents (DES) have been around for several years and have yielded excellent results" says Dr Nair who specializes and has a very large experience in this procedure.

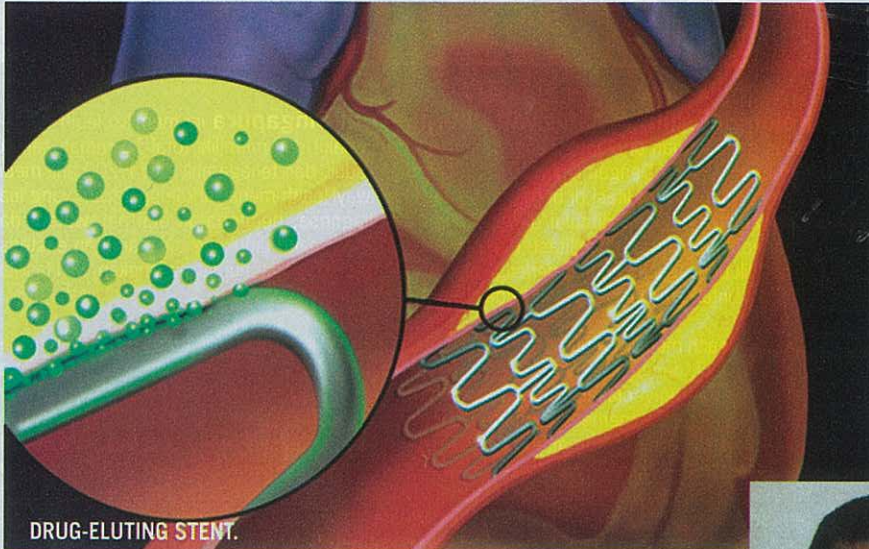
However, there are even further advances in this area. "Drug-eluting balloons (DEB) or medicine coated balloons can be used for patients who cannot use stents because their blood vessels are too small or for patients whose blood vessels have closed off again after a previous stenting procedure." said this doctor who graduated from National University of Ireland in 1996. He has been performing this procedure at his hospital for the last 2 years and is still the Primary Investigator for the trial indicating the usefulness of this procedure. The process is simple and fast and is a lifeline for the appropriate patient. "However, it is not a replacement for the Drug Eluting Stent (DES) as most patients will have better results with the DES over the DEB" Dr Nair stresses. ● MIRA LARASATI



DR. DINESH NAIR
Cardiology Specialist
ParkwayHealth

Serangan Jantung, Bukan Cerita Biasa

Dengan stent dan balon bersalut obat, pasien kian nyaman.



DRUG-ELUTING STENT.

Kisah Thaddeus Cheong, atlet muda asal Singapura ini, memang bukan cerita biasa. Saat itu, tepatnya pada 2007, atlet belia yang masih berusia 17 tahun itu harus menyerah pada sang ajal, hanya selang sekitar 90 menit selepas mencapai garis finis, di ajang lomba triathlon yang diikutinya. Publik Singapura pun terhenyak. Thaddeus meninggal akibat serangan jantung, yang sebelumnya sama sekali tidak menunjukkan gejala. "Serangan jantung dapat terjadi tanpa gejala awal apa pun," ucap Dr. Dinesh Nair, Spesialis Jantung dari ParkwayHealth, Singapura.

Pusat Riset Jantung Nasional di Singapura mencatat, data kematian mendadak di negeri ini dari 2001 dan 2003 menemukan setidaknya 300 individu berusia 18 sampai 60 tahun meninggal mendadak setiap tahunnya. Menilik perbandingan populasi antara Singapura dan Indonesia, Dr. Nair menyatakan, angka tersebut mungkin lebih tinggi di Indonesia. Menurutnya, kematian mendadak (*sudden cardiac death*) ini terjadi beberapa menit setelah seseorang hilang kesadaran. Sering terjadi pada orang yang tampaknya sehat dan tidak pernah merasa memiliki penyakit jantung, tetapi sebenarnya memiliki penyakit jantung yang tidak terdeteksi.

Ditemui di Jakarta pekan lalu, Konsultan

Bedah Jantung dari Rumah Sakit Mount Elizabeth Singapura, yang mengambil subspecialisasi di Singapura, Inggris, dan Jerman, ini menyebutkan kematian mendadak bisa terjadi disebabkan beberapa hal. "Penyebab dominan pada 80 persen kasus adalah penyumbatan saluran darah arteri," ujarnya. Ini terutama terbukti pada pasien di atas 35 tahun dan terserang penyakit jantung akibat penyumbatan plak kolesterol pada arteri jantung. Faktor bawaan adalah faktor pradominan untuk mereka yang berusia di bawah 35 tahun.

Selain memperhatikan riwayat kesehatan, pemeriksaan awal juga bisa dilakukan. Beberapa tes yang mudah dan relatif terjangkau dengan hasil yang bagus, bukan tidak mungkin dilakukan. Di antaranya, dengan ECG, Echocardiography, Stress Test, Invasive Electrophysiology Study, serta Invasive Coronary Angiography.

Di samping itu, untuk hasil diagnosis lebih akurat, perlu dilakukan beberapa tes lainnya. Seperti, Nuclear Perfusion Scan, atau Multi Slice CT Scan. "Scan Perfluksi Nuklir adalah tes bagi mereka yang tidak bisa berlari, dan dapat mendeteksi kelainan arteri dengan tingkat akurasi

hingga 85-90 persen," kata Dr. Nair. Sedangkan CT Scan Multi Slice adalah alat lain dengan tingkat akurasi yang sama dan berguna untuk skrining awal penyakit jantung koroner dan kelainan bawaan. Tetapi tes-tes ini memerlukan keahlian dan pelatihan yang baik agar pembacaan hasil yang baik dapat dilakukan.

Kematian mendadak, seperti dijelaskan Dr. Nair, pada banyak kasus juga ditemui karena "sistem kelistrikan" jantung mengalami malfungsi. Akibatnya, sinyal listrik agar jantung memompa hilang dan jantung gagal berdenyut. Begitu didiagnosis dengan kasus ini, beberapa penanganan dapat dilakukan, tergantung dari penyebabnya. *Angioplasty* atau penggantian stent atau bedah *bypass* dapat menangani arteri yang tersumbat. Jika masalah ini tidak dapat ditangani, maka prosedur ICD (*implantable cardioverter defibrillator*) dapat diimplan seperti layaknya prosedur pemasangan alat pacu jantung, untuk memberikan tekanan listrik dan mengembalikan ritme asli dari jantung dan menyelamatkan nyawa pasien.

Sedangkan pada pengobatan jantung koroner, prosedur yang banyak digunakan adalah PCI (*percutaneous coronary intervention*). Pada PCI digunakan kateter untuk membuka penyumbatan pada arteri dengan menggunakan alat seperti balon, juga stent (menyerupai cincin, dari baja).

Kabar baiknya, teknik dan hasil dari PCI ini telah banyak mengalami kemajuan. "DES (*Drug-Eluting Stent*) atau stent bersalut obat ini telah digunakan selama beberapa tahun

dan hasilnya sangat bagus," kata Dr. Nair yang amat berpengalaman di bidang ini.

Tetapi, ada beberapa kemajuan lain di bidang ini. "*Drug-Eluting Balloons* (DEB) atau balon yang bersalut obat dapat digunakan untuk pasien yang pembuluh darahnya tertutup lagi setelah prosedur *stenting* sebelumnya," ujar dokter lulusan universitas di Irlandia pada 1996 silam ini. Prosedur ini telah dilakukannya selama dua tahun dan hingga kini masih menjabat sebagai Pengamat Utama untuk percobaan yang mengindikasikan manfaat dari prosedur ini. Proses DEB sederhana dan cepat, bisa digunakan sepanjang hidup bagi pasien yang cocok. "Tetapi ini bukan merupakan pengganti untuk DES karena kebanyakan pasien masih tetap mendapatkan hasil yang lebih bagus dengan DES daripada DEB," kata Dr. Nair. ● MIRA LARASATI



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