

Elective ReportElective Location:

Cardiology Unit, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Learning Objectives:

- 1.) What are the prevalent heart-related conditions in Malaysia? How do these compare with the UK?

The Ministry of Health in Malaysia caters for a population of approximately 28,334,100, around 86 people per square kilometre. It is a multicultural society of Malay (61%), Chinese (30%), Indian (7%) populations. The life expectancy of the male and female population is estimated at 71.7 years and 76 years respectively where the leading cause of death within government hospitals according to the Ministry of Health in Malaysia is from cardiovascular disease at 25.35%, followed by respiratory disease at 18.46%. Although the leading cause of death is also CHD within the UK, it accounts for a higher proportion of its population with over 1/3 of all causes of death being attributed to CHD.

The most prevalent cardiovascular conditions on admission as indicated by the data in the table are ischaemic heart disease, primary hypertension and heart failure within Malaysia. Furthermore, in comparison to the UK there is a higher incidence of rheumatic heart disease within Malaysia.

According to the cardiologists at UMMC, there is a greater emphasis now on primary prevention of heart disease in Malaysia although there are many cultural barriers including local diet (high in cholesterol, saturated fats) and smoking that present difficulty. Also as the population is aging, the prevalence of ischaemic heart disease is rising. This is similar to that of the UK where over 2.2 million patients approximately live with CHD.

A Table to show the Diagnosis and Discharge rate for Diseases in the Circulatory System for the Malaysian population in 2010

Detailed Cause Groups (Diseases of the Circulatory System)	KOD I.C.D. - 10 I.C.D. - 10 Code	BILANGAN DISCAJ No. of Discharges	KADAR DISCAJ (SETIAP 100 000 PENDUDUK) Discharge Rate (Per 100 000 Population)
RHEUMATIC FEVER AND RHEUMATIC HEART DISEASES			
Acute rheumatic fever	100-109	2,119	7.48
Chronic rheumatic heart diseases	100-102 105-109	291 1,828	1.03 6.45
HYPERTENSIVE DISEASE			
Essential (primary) hypertension	I10-I15	26,998	95.29
Hypertensive heart disease	I10	23,584	83.24
Hypertensive renal disease	I11	1,560	5.51
Hypertensive heart and renal disease	I12	1,431	5.05
Secondary hypertension	I13 I15	191 232	0.67 0.82
ISCHAEMIC HEART DISEASE			
Angina pectoris	I20-I25	52,145	184.04
Acute myocardial infarction	I20	27,484	97.00
Remainder of ischaemic heart disease	I21 Remainder of I20-I25	14,385 10,276	50.77 36.27
DISEASES OF PULMONARY CIRCULATION & OTHER FORMS OF HEART DISEASES			
Pulmonary embolism	I26-I62	28,782	101.58
Acute pericarditis	I26	447	1.58
Acute and subacute endocarditis	I30	40	0.14
Acute myocarditis	I33	462	1.63
Cardiac arrest	I40	65	0.23
Conduction disorders and cardiac arrhythmias	I46	602	2.12
Heart Failure	I44-I45, I47-I49	7,804	27.54
Remainder of diseases of pulmonary circulation and other forms of heart diseases	I50 Remainder of I26-I52	15,745 3,617	55.57 12.77

2.) How are cardiac care services organised and delivered in Malaysia? How do these compare with the UK?

The Malaysian Healthcare system includes both the state and private sector, similar to that of the NHS and private sector in the UK. The state healthcare system which is implemented in government-run hospitals has low fees or can be free if the patient or their spouse or children is or has previously been a government servant. It caters for the lower socioeconomic groups although certain medications (such as heparin) or recommended procedures (such as elective angiograms) must be paid for by the patient. Most of the government-run hospitals now also include a private section of the hospital for private healthcare sector. The costs are considerably dearer and cater to the higher socio-economic groups and access to resources and procedures is much faster. In emergency cases the protocols are largely similar to that of the NHS and are fully funded by government subsidies.

Cardiac care services are governed by Clinical Practice Guidelines published by the National Heart Association of Malaysia (NHAM). These guidelines are derived from local and international research and medical literature as well as using guidelines from the American College of Cardiology (ACC) and the European Society of Cardiology (ESC). It is reviewed every 4 years as new evidence is gathered and examined by both an internal and external panel of hospital based and non-hospital based clinicians. It is very similar to that of NICE guidelines within the UK however is updated at a longer interval; therefore the cardiologists have some flexibility if new evidence emerges to treat their patients.

At UMMC the housemen are also given a lot of responsibility to manage the 60 patients on the cardiology ward. When attending CCU the junior doctor and several of the nursing staff act as the crash team and senior help is usually only called if complications arise. The impression I received from the junior housemen is that the support system for them is not as effective as that of the UK, as they are less inclined to contact seniors as are expected to take greater responsibility.

3.) To learn about any new therapies or procedures used in the management of heart disease.

One therapy carried out at UMMC which I was not familiar with was the Extracorporeal Shockwave Myocardial Revascularisation (ESMR) procedure. The procedure is non-invasive and involves low-intensity ultrasound shockwaves targeting areas of myocardial ischemia in CHD patients, which in turn stimulates physiological angiogenesis in these areas, improving function and viability of the muscle, thereby reducing angina symptoms. The procedure was beneficial for patients as it was non-invasive and allowed them to travel home immediately following the procedure and carries no acute or chronic side-effects. Furthermore the technique can be repeated multiple times on the patient if benefit in the outcome is shown.

- 4.) To develop existing clinical skills and further explore cardiology as a future career path.

The elective at UMMC allowed me to further develop my clinical skills on the wards. There were teaching ward rounds every morning with a consultant cardiologist and the team and a second ward round in the evenings with the medical officer. As patients were able to speak English I was readily able to take cardiovascular histories, although more comprehensive histories became a bit more challenging as patients would often alternate between English and Malay to answer questions. There were many opportunities to examine patients with varied murmurs within the wards and also I became much more efficient at ECG interpretations having had to present the investigations daily. Furthermore I was demonstrated how to and was able to successfully carry out a pleural tap under the guidance of the registrar, as many patients had pleural effusions due to decompensated heart failure, often as a result of poor compliance and adherence to medications. Frequent blood taking and cannulae insertion became routine, which is a necessary skill for when I begin my own posting and I was able to help out the junior doctors with discharge paperwork. Within CCU, I also attended multiple crash calls with the doctor on-call and the nursing staff and was impressed at the effective communication between the team. Twice a week there would be teaching for the junior doctors within the hospital that I was able to attend where any interesting cases would be discussed after the lecturer presentations. Moreover, I was able to spend a good portion of my elective within the interventional cardiology theatres and where I was given the opportunity to scrub in and see multiple angiograms and PCI being carried out and was a healthy reminder of the cardiovascular anatomy and the investigation interpretation.

References:

- 1.) Ministry of Health Malaysia Health Facts 2011; Ministry of Health; Available at: <http://moh.gov.my/v/mmh>
- 2.) Ministry of Health Malaysia Health Indicators 2010; Ministry of Health; Available at: http://moh.gov.my/images/gallery/publications/md/hi/hi_2010.pdf
- 3.) Coronary Heart Disease in England Statistics Factsheet 2011; British Heart Foundation; Available at: <http://bhf.org.uk/statistics>
- 4.) Clinical Practice Guidelines Malaysia; Academy of Medicine of Malaysia; Available at: <http://www.acadmed.org.my/index.cfm?&menuid=67>