

Elective : Cardiology

Placement: London Chest Hospital, London, UK

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Supervisor: Dr. Andrew Archbold

East London is Europe's most diverse community. 34% of the population in Tower Hamlets is Bangladeshi. The prevalence of cardiovascular disease is the highest amongst Asian migrants in the UK especially in East London. In the London, the diet of especially first generation of Asian is higher in fat and saturated fat than the diet of the general population. There are few risk factors involved in contributing to the prevalence and incidence of cardiovascular diseases. The risk factors are family history of heart problems, previous history of heart problems, high cholesterol, diabetes mellitus (DM), smoking, lifestyle and exercise, and congenital or genetic. Research showed that the mortality rate of ischaemic heart disease (IHD) is 161 compare to 54 in Kensington and 65 in Kingston with 10 years less of life expectancy. (1)(2)

The mortality of cardiovascular disease (CVD) is over 180 000 in UK, with the total of 82 000 died from coronary heart disease (CHD). CVD is one of the main causes of death in people under 75 in the UK. 28% of premature deaths in men and almost 20% premature deaths in women were from CVD in 2009. Overall, almost 1.5 million people in UK died of myocardial infarction and 2.7 million with CHD. (3). However, the recent trend of mortality rate in CVD is falling due to effectiveness of cardiology treatment and reducing of risk factors especially smoking. The reductions of death rates from CHD is 58% since 1990s and 44% in CVD. (4)

They are many services provided in London Chest hospital for heart and chest disease especially cardiovascular diseases. The services are provided in various aspects such as in investigations, diagnosis and management of patients with cardiovascular disorders. There are many clinics run in the hospital as well for example rapid access chest pain clinic, heart failure clinic, heart muscle disease clinic, cardiology clinic, and cardiothoracic surgery clinic. In diagnosing patients, there are various diagnosis tools used to diagnose the disease effectively and most of the tests are less invasive. They are electrograms (ECG), echocardiograms, exercise stress test, CT scan, MRI scan, angiography, and of course simple test which is blood test.

Then, the crucial part is the interventional treatments which are involved in patients' future management. Besides that, the procedure is carried out to prevent serious cardiovascular disorders. The procedures are angioplasty, coronary artery bypass graft(CABG), aortic valve replacement(AVR), catheter ablation for arrhythmias, pacemakers, cardioversion and implantable cardioverter defibrillators(ICD). Patients are referred to the hospital via general practitioner(GP), pain clinic, accident and emergency(A&E), and in-hospital transfer. They will be given different stages of care as stated above.

During my elective attachment, I was able to expand my knowledge of cardiovascular diseases. Such as angina, myocardial infarction(MI), ischaemic heart disease(IHD), heart muscle disease(cardiomyopathy), arrhythmias, valve disorders, heart failure, congenital heart diseases(e.g: atrial septal defect(ASD) and ventral septal defect(VSD)) and many more. In order to do that, I spent my time talking to patient in the ward. I did examine them as well to practice my clinical skills. Furthermore, I also learnt more about cardiovascular disease in various clinics such as cardiology clinic, heart muscle clinic and cardiothoracic surgery clinic.

Various range of diagnostic tools used as mentioned above to make diagnosis. ECGs to shows any ischaemic changes in heart muscles. Echocardiogram displays heart action and its function percentage. It is usually used in patient after heart attack or heart failure. Exercise stress test was the most common test and less invasive test. However, recently the test is rarely done because it is usually give false negative results. Apart from that, the new advanced medical technology such as CT scan calcium scoring or MRI scan will give more reliably results in diagnosing cardiovascular disorder. CT and MRI scans are able to give detailed view of the heart such as the valves, muscles and coronary arteries. Hence, patient will go straight to CT scan with calcium scoring without undergo exercise stress test depending on their symptoms and conditions. There are only five units of the new CT scan machine with calcium scoring in whole UK. After the procedure, the team will then make decision on the further management. Sometimes, patient will send to angiography for the next step. In order for me to understand the procedure more, I able to observed the procedure.

In angiography blockages or abnormalities in coronary arteries can be diagnosed. Then, either stent or balloon angioplasty might be considered later if appropriate. The narrowed arteries can be dilated and improves blood flow in the heart. Angioplasty is the most safe and preferred procedure. If the blocked coronary arteries cannot be overcome with angioplasty, the next step that might help patient is with coronary artery bypass graft surgery (CABG) which I had the chance to sit in the operation room to observed the whole procedure. CABG surgery improves blood circulation in to the heart, therefore preventing further heart attack. CABG surgery should be considered in patients who have angina despite medical treatment, patients who do have failed angioplasty and triple vessel coronary artery disease, left main stem stenosis, two-vessel disease with proximal left artery LAD disease. The surgery involves using the long saphenous vein or internal mammary arteries to bypass narrowed arteries. In 90% of cases, the surgery successfully improves angina, lifespan and quality of life. The other surgery is aortic valve replacement(AVR) which usually to manage aortic stenosis or regurgitation that may contribute to heart failure.

My other objective is to gain experience and knowledge in management of broad range of acute or chronic cardiovascular diseases. In order for me to fulfill my aim, I joined coronary care unit ward round and other ward rounds. From the ward rounds, I was able to get informal teaching from the team. Besides the informal teaching, a simple observation of plans and decision made on ward round also very essential for me. Apart from the services provided by as I mentioned previously, there are few other services provided to patients. For example in few cases, patient who had heart surgery will get physiotherapy treatment. The team will help patient to go back to their normal life. Furthermore, cardiac rehabilitation is also offered to patient who had previous cardiac events or is having high risk of further cardiac events. The team will give advice and information regarding the recovery process and follow up to help reducing risk factors of cardiac events such as smoking, cholesterol, and improve lifestyle. Cardiac rehabilitation also is provided at home for immediate support.

In summary, I had the chance and opportunity to experience all sorts of aspects in managing patients with cardiovascular disorders. Observing all the interventional procedures was the great opportunity and I enjoyed them. Finally, I was able to fulfill almost all of my objectives. I hope I can use my experience and knowledge here in future career.

References.

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