CARDIOLOGY

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Objectives:

1. What are the prevalent cardiovascular problems seen in a typical American Hospital (Heart Failure Clinic)? How does it compare to the United Kingdom? Consider obesity etc.

2. How are cardiac services (Heart failure) organized at the Moses Cone Hospital? How does this compare to a typical NHS hospital? Consider Healthcare Funding.

3. How does the delivery of cardiovascular services at a US hospital compare to the norm in a developing country like Nigeria? Are there transferrable ideas?

4. What have I learned about the management of heart failure? How has my perspective on the specialty evolved? What are my thoughts as to a future in the specialty?

REPORT – 1,178 Words

In the United Kingdom, there is increasing awareness of health problems associated with lifestyle and diet such as obesity, diabetes mellitus, hypertension, smoking and hyperlipidemia with associated cardiovascular, renal and other complications. There is growing evidence that as lifestyles become more sedentary and dietary intake mismatch is greater, the prevalence rises. The result is increased pressure on healthcare systems and this is rising. I was keen to see the trend in the USA.

In heart failure, the heart can't sufficiently maintain output to meet the body's functional requirements. Ischemic heart disease is responsible for about 50% of cases. Also, as survival from myocardial infarction increases, there are an increasing number of people with resultant morbidity of heart failure. Other significant factors include cigarrete smoking, hypertension and obesity and to a lesser extent diabetes mellitus. Valvular disease is a causative factor with increased significance in the older population. The statistics seem to hold true for the local population at the Advanced Heart Failure service at Moses Cone Hospital. It must however be noted that many patients had a combination of any number or all of the above as co-morbidities.

Other patients have infective, iatrogenic, other medical or inherited causes of disease. The progression, pattern and duration of disease vary. For instance, a young patient with a viral myocarditis could be very ill for a brief period, then with correct supportive treatment return to full functionality with no residual illness. Similarly, a breast cancer patient on Herceptin could experience a significant fall in ejection fraction which if detected early could be reversed with cardiac protection and withdrawal of the offending drug. On the other hand, a patient with a familial cardiomyopathy may progress to end stage over a period of time and require advanced therapy.

With regards to the organization of services, in the United Kingdom, the major provider of healthcare and funding is the National Health Service. Healthcare is free at the point of delivery to the patient. In general, prevention via control/elimination of risk factors is a main feature of primary healthcare particularly in cardiovascular medicine. Treatment for heart failure may include hospitalization (including intensive care), a number of drug regimens, cardiac rehabilitation and usually involves a multidisciplinary team effort. There is limited availability of advanced therapies. A major limitation with transplantation is organ availability. The patient's fitness for surgery and ability to cope with post-surgical regimen are also important. Ventricular assist devices (VAD) may be used as a bridge to transplantation or recovery or indeed as destination therapy. It can be very expensive to manage heart failure but in the United Kingdom, the cost burden is mostly borne by taxpayers via the NHS and not the patient directly. Managing the cost of treatment per patient is important. In recent years, sustainability of the NHS has featured significantly in political and social debate. The Health and Social Care Act of 2012 was enacted with the declared intent of improving the value for money of the NHS but has been criticized for effectively permitting the privatization of the NHS. Opponents believe that it may bring about the end of the NHS with significant impact on the availability of health care for all.

In the USA, healthcare is not automatically free at the point of delivery. Healthcare insurance can significantly reduce the cost of medical care but is not universal. A significant proportion of Americans and residents (16%) do not have any comprehensive insurance .The major reason for not having insurance is because it is unaffordable. For those with insurance, many are covered via their employment (55%) and others (10%) pay for private health insurance (at significant cost). The remaining third are covered by social programs including Medicare, Medicaid and military programs. Medicare is a federal social insurance program that covers patients aged 65 and over, disabled people, people with motor neuron disease and those with end stage renal failure. Medicaid is a joint state and federal funded social healthcare program that covers some low income families. The Affordable Care Act 2010 aims to increase health insurance coverage and lower healthcare costs and has featured prominently in the headlines globally. Supporters believe it is making healthcare availability fairer but opponents criticize various aspects of it including the increased burden on small businesses.

The Advanced Heart Failure Clinic at the Moses Cone Hospital is within a 'not for profit' health system and typically sees patients with various coverage status. The co-pay and insurance status factor into the choices available to and taken by patients but there is a principle of offering life-saving treatment irrespective. The treatment options offered may be affected by the cost implication but there is access to high quality healthcare.

In sharp contrast to the systems described above, a typical hospital in a developing country like Nigeria has different limitations. Inequalities exist in most areas of society including healthcare and education with varying living conditions and standards. Medium to large facilities are typically government funded (either directly or via a university's medical school). As a result, hospitals are usually underfunded and this is compounded by mismanagement. Basic amenities like electricity and clean water are not universally available and are expensive to maintain. There are infrastructural and equipment shortages. Advanced therapies are almost never available as the systems to maintain the required programs are non-existent or where present, inefficient. Medicines can be very expensive especially with newer drugs so there is a tendency to lag behind current guidelines and trends in global medicine. So a cheaper and less effective drug or generic drug may be used purely due to affordability (to both patient and government/hospital) and availability. This limits choices. Risk factor awareness and reduction is a huge task with educational and cultural limitations. Mortality from primary events is high with limited emergency care. Survival usually means poor quality of life and prognosis. With many of socio-economic problems feeding into the healthcare system, there is slow progress in improving standards. A number of lessons can be learned from developed countries and adapted.

While this was a specialist heart failure service, the patients usually had broader cardiovascular diagnoses as well. As a result, I learned quite a bit about the specialty in general. The management protocols and guidelines are formulated and adapted on a large, high quality evidence base. There is a lot of continuing clinical research in the field and it is being improved and expanded constantly. As I leave medical school and begin as an F1, it still ranks quite highly on my shortlist for possible specialty training. The heart failure team was a prime example of true multidisciplinary team work and left a huge impression on me. The first LVAD implantation at the facility was during my elective and was exciting and educational to witness. Importantly, I saw that the principles of medicine tend to be consistent. Doctors and other health professionals strive to form a partnership with each patient to improve and/or maintain quality of life with best available resources. This may happen in different ways in different parts of the world but is universally recognizable.