

## **ELECTIVE (SSC5b) REPORT (1200 words)**

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

Previous to my elective I had very little exposure to clinical anesthesia during my medical school training. My main objective was to learn about general anesthesia in a tertiary care hospital to consider it as a future career. I learnt, the first step was thorough patient assessment done a few days before the procedure and on the day of surgery to ensure nothing was missed. This would enable the anaesthetist to identify relevant significant points guiding the choice of anaesthetics. In preparation for induction of anaesthesia appropriate IV access would always be required, usually urinary catheter would be inserted, blood products would be arranged if bleeding were anticipated. Through observing a variety of surgical lists I was able to understand the main principles of General Anaesthesia being analgesia, muscle relaxation and hypnosis. The options of local or regional anaesthesia, and central neuraxial blockade, with or without sedation were other possibilities. The induction of general anaesthesia could be done intravenously or through inhalation of anaesthetic vapours. A choice of agents could be used to achieve this, such as Propofol, Ketamine, and volatile agents like Isoflurane, Sevoflurane, and Desflurane. These agents mostly had common side effects, most prominently hypotension; it was therefore paramount to closely monitor and correct the heart rate, blood pressure, ECG, oxygen saturation, exhaled carbon dioxide, and concentration of volatile anaesthetic agents, in order to ensure patient safety. It is absolutely fundamental to know the mechanism of action of these medicines, their side effect profile and their antidotes. Maintenance of general anaesthesia was mostly done using inhalational agents, although intravenous infusions of anaesthetic agents could be used too. Airway is secured under general anaesthesia using supraglottic devices such as a laryngeal mask airway, or endotracheal intubation, depending on several factors, e.g. co-morbidities of the patient, the surgical procedure, etc.. I feel I now have a better understanding of the role of an anaesthetist, and this is a career perhaps I would enjoy.

Diabetes Mellitus is one of the fastest growing health problems in the world. Over the past forty years Saudi Arabia has made phenomenal socio-economic progress. The growth and prosperity have brought pronounced changes in the lifestyle of the people, including lack of exercise and unhealthy diet, both leading to a high proportion of the population being obese and overweight. The incidence of diabetes in KSA is on the rise mainly as a consequence. After spending several weeks here I noticed the high consumption of fast foods and sugar-dense beverages. Technological advancements such as cars, elevators, escalators, remotes have led to a decrease in level of activity; the hostile weather does not help either. It is not a mystery that Diabetes mellitus is more prevalent among Saudis living in urban areas than rural areas. Saudi Arabia is among top ten countries of the world with the highest prevalence of diabetes. A community-based national epidemiological health survey was conducted amongst the Saudi population in the age group of 30–70-years of selected households over a five year period. A total of 17232 Saudi subjects were selected in the study, and 16917 participated being a high response rate. Four thousand and four subjects (23.7%), out of the total were diagnosed to have DM. Therefore, the overall prevalence of DM obtained from this study is 23.7% in KSA. In Saudi Arabia the national healthcare burden because of diabetes is likely to exceed \$0.87 billion. Aggressive promotion of public awareness, continued screening and timely intervention is necessary to decrease the incidence and reduce the complications of diabetes in Saudi Arabia. This is a difficult task as there is low literacy rates in the ageing population.

The health care system in the Kingdom of Saudi Arabia can be classified as a national health care system in which the government provides health care services through a number of government agencies. However, there is a growing role of the private sector in providing health care services to the population. The Saudi population receives their healthcare from one of several ways. There are ministry of health funded facilities also known as government hospitals, these are located in the larger as well as smaller cities in Saudi Arabia and serve the general public. Then there are military hospitals, namely the Saudi Arabian National Guards and the Ministry of Defense and aviation. Healthcare is free of cost for members of the Saudi Arabian armed forces and members of their families, the general public can use their facilities in some cases but are required to pay for the service. Then there are hospitals for government employees which cater for members of the ministry of interior, the police force and custom collectors. There are also subspecialized referral hospitals such as the King Faisal Specialist Hospital and Research Centre where I did my placement. These hospitals have the best technology and the most internationally trained staff with foreign qualifications, these hospitals receive all the complicated cases where they can provide specialist care which is not available in other centres. There are also private for-profit hospitals which offer services to anyone who can pay for their facilities, or have the required medical insurance. Some private facilities are set up to provide healthcare to their employees and their families of specific companies through private hospitals, one example of this is Saudi ARAMCO hospital which serves the employees of ARAMCO.

Pain management is a subspecialty of anaesthesia; it involves training in the diagnosis and management of all types of pain. Pain can be caused by a broad spectrum of disorders and can be categorized into acute, chronic and cancer pain and sometimes a combination of the three. Pain can also arise after surgery, due to nerve injury or a complication of diabetes. Occasionally pain may have no obvious cause, which are usually the hardest to manage. These trained specialists have an in depth knowledge of the physiology of pain, the ability to take a detailed history of patients with complicated pain problems, understanding the different specialized tests needed for diagnostic purposes, appropriate knowledge of analgesia and prescribing them effectively and safely and the skills to perform invasive procedures if the pain is not controlled by analgesics. Such procedures include nerve blocks, spinal injections, the use of TENS machine. Pain management specialist also plays an important role to involve other healthcare professionals such as physiotherapists, occupational therapists and rehabilitation programmes in order to offer the patient a comprehensive treatment plan.