ELECTIVE (SSC5c) REPORT (1200 words)

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

In April 2015 in my capacity as a final year medical student travelled to Kota Kinabalu in Sabah, Malaysian Borneo, to undertake a number of weeks on attachment in anaesthetics at Hospital Queen Elizabeth II. Having had relatively little experience of anaesthetics and anaesthesiology in the UK before starting this attachment, and having no prior experience of medicine in Malaysia, I had little idea of what to expect in terms of how anaesthetics is practiced in my host hospital. I was lucky enough, in my time within the anaesthetic department in Hospital Queen Elizabeth II, to experience a diverse range of anaesthesia in the context of an equally diverse range of surgical pathology, spanning trauma and orthopaedics, a variety of emergency cases, plastics, colorectal surgery to name but a few.

I was somewhat surprised to find that the practice of anaesthetics in Hospital Queen Elizabeth II was extremely similar to the way in which anaesthetics is practiced in the UK, at least in my limited experience. I would like to use the following report to highlight some of the differences and similarities which I came across relating to the above learning objectives.

The main difference between the way in which induction is carried out at Hospital Queen Elizabeth II (HQEII) as compared to my experience in the UK, is that in the UK induction is generally carried out in the anaesthetic room, where there is usually a separate anaesthetic machine, and the patient is then transferred into the theatre. In contrast, at HQEII the anaesthetic rooms are generally not equipped with additional anaesthetic machines, and induction is therefore carried out in theatre. It is apparently "traditional practice" in the UK to use a separate anaesthetic room for induction but the benefits and drawbacks are not entirely clear (Bromhead and Jones, 2002).

The most commonly used intravenous anaesthetic drug for induction of general anaesthesia during elective procedures at HQEII is propofol. This is also the preferred agent in the UK. The most commonly used intravenous analgesic used at induction is fentanyl. Again this is the same in the UK, although in my experience in the UK I did see remifentanyl used a number of times, whereas I did not see it used at HQEII. This may be due to the high cost of this drug. The most commonly used muscle relaxant that I observed being used at induction at HQEII was rocuronium. I also observed suxamethonium being used for rapid sequence induction in the emergency theatre, and I noticed that both vecuronium and atracurium were available. In my experience in the UK there seemed to be more variation in the choice of muscle relaxant, but rocuronium is certainly a popular drug in the UK as well.

The equipment available for airway management is much the same as HQEII as that which I experienced in the UK. I saw a variety of laryngeal mask airways used as well as endotracheal tubes, with similar equipment apparently available to that which is available in the UK. In the UK however I did see the Glidescope video laryngoscope used a number of times, which I did not see used at HQEII. Aside from these few minor differences, induction was performed in much the same way as I have experienced in the UK.

The most commonly used volatile agent for maintenance of general anaesthesia that I saw used at HQEII was sevoflurane, which is also the most commonly used agent in the UK. I also saw isoflurane used at HQEII, which I have not seen used in the UK except in obstetrics. It was explained to me be

one of the anaesthetists that isoflurane was being used as there was old stock which needed to be used. Also, desflurane was something that I saw being used in the UK, and I did not see any at HQEII.

The closed-circuit anaesthetic machines used at HQEII were identical to those which I have seen being used in the UK. The monitoring during general anaesthesia was also very similar to that in the UK. One exception was that I did not observe an invasive temperature probe being used, whereas these tend to be used in the UK in my experience. Also I saw a number of procedures in the UK where oesophageal doppler probes were used for cardiac output monitoring, and I did not see any invasive cardiac output monitoring during my time at HQEII.

This phase of anaesthesia was performed in much the same way as in the UK. Reversal of neuromuscular blockade was performed if necessary with neostigmine, and as in the UK sugammadex was available but not used routinely. One minor difference was that in the UK there is routine use of transcutaneous electrical nerve stimulators to assess depth of paralysis, and I did not observe these being used at HQEII. One other small difference was that in the UK, following emergence there is routine use of portable oxygen cylinders and facemasks to provide oxygenation during transfer to the recovery room, whereas this is not routine practice at HQEII.

The most common drugs used for postoperative pain management at HQEII that I saw used were morphine and parecoxib. This is slightly different to the UK where parecoxib is not routinely used. Patient controlled analgesia is readily available at HQEII, as in the UK.

I was lucky enough to observe many spinal anaesthetics, as well as combined spinal and epidural anaesthetics. These are performed in the same way as the UK, with the exception that ultrasound is often used in the UK to facilitate the procedures, whereas I only observed this once at HQEII.

The practice of anaesthesia in the UK and in Malaysia, according to my experiences, are extremely similar, with only minor differences as detailed above. The other most noticeable difference was that there appeared to be many more junior doctors available and involved at HQEII than in the UK, and in the UK there seemed to be more specialists. This probably reflects the relatively recent expansion of medical education in Malaysia, as was explained to me. In summary, the practice of anaesthesia in the UK and Malaysia, according to my experience, are extremely similar, with slightly less resources available in Malaysia than in the UK.

The Malaysian public healthcare system is quite similar to the UK NHS, however there are some differences in the way it is funded. Although it is not free at the point of care, charges are generally small and often nominal. However there are still sections of the poorest populations who do not access healthcare until very late stages of disease, resulting in presentations generally only seen quite rarely in the UK. For example amputations are very common in diabetic patients.