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SSC 5c - Elective

23/04/12 - 25/05/12

Elective Report

Trauma and Neurosurgery at King's College Hospital, London

During my medical elective I was fortunate enough to be able to spend five weeks with the neurosurgical team at King's College Hospital in London. I was able to observe a number of elective and emergency procedures with a range of consultants and registrars. These opportunities have allowed me to experience subspecialties covering; skull base surgery, endoscopic neurosurgery, spinal surgery, vascular, functional, general and paediatric neurosurgery. I have had the opportunity to speak with a range of neurosurgical patients, and to observe regular outpatient clinics and multidisciplinary team meetings. I have also been able to take advantage of the regular teaching program in place for the neurosurgical trainees at King's. All in all I feel that I have learnt a lot more about neurosurgery and the demands it has as a career, which were my main personal objectives before starting my elective.

The main learning objective I set myself from the medical school was "What are the prevalent neurosurgical conditions in London; what are the main mechanisms or brain injury in a city; how does this compare with other environments in the context of global health", and I will now look into this objective based upon my elective experiences.

I have seen a large volume of trauma cases, as is to be expected at one of London's Trauma Centres. These ranged from accidents and falls from height to assaults and road traffic accidents. Currently, 'trauma and expectant cases' make up more than 50% of the neurosurgical caseload (BMJ Careers, accessed 22/5/12), and this was reflected in what I saw. Each morning the admissions from the previous 24 hours were discussed by the team. This was done as a viva based system, where the trainees were asked questions by their seniors regarding the investigations, diagnosis and management of each case. I found this to be very useful as a learning tool, and it has helped me appreciate the diversity of pathology, as well as the usefulness of different imaging modalities in diagnosis. In addition to trauma there were a large number of patients with spinal cord compression or *cauda equina* syndrome. I also saw many presentations of neoplastic disease, including primary brain tumours at all ages and metastatic disease in the brain and spine. Other cases dealt with were vascular emergencies, including intracranial and subarachnoid haemorrhage.

As well as the emergencies dealt with by the department, I was able to observe many elective procedures. These were very diverse, and followed the subspecialties of different consultants, covering paediatric, spinal, functional and vascular procedures.

Based upon my observations and objectives I think that the predominant mechanisms of brain injury in London are due to trauma and vascular events. It is because of this that all neurosurgical centres in the UK are based in cities, where the population is highest and where most trauma occurs. The caseload of neurosurgeons in other cities across the world is likely to be broadly similar, although in more rural areas one might expect there to be less trauma and a higher proportion of neoplastic and congenital disease, however I have not been able to find any reliable data to back this up.

My second objective was “How has the London Trauma Network affected the outcomes of major trauma victims, how does this compare with other countries?”. It is estimated that the London Trauma Network will save “100 lives each year and prevent disability in many more” (London Trauma Office, accessed 22/5/12). This network is made up of four networks around London, each centred on a major trauma centre, with several smaller centres allowing patients to be taken to the most appropriate hospital to deal with their injuries. This system was initiated in 2010, and provides 24/7 consultant led trauma care, and in the first year of the trauma network an additional 58 Londoners survived injuries that they were expected to die from (London Trauma Office, 2011). Although in its early stages, the results from the London Trauma Network are encouraging, with significant reductions seen in time to admission to a major trauma centre, time to CT scan and mortality. This framework is now being used in the emerging ‘Regional Trauma Network’, which is being implemented nationwide. It is hoped that these interventions will bring the mortality from trauma in the UK in line with other major international centres, a shortfall that was outlined by the National Audit Office in 2010 (Comptroller and Auditor General, 2010).

My third objective was to understand the “Impacts of neurosurgical intervention in trauma cases, and to gain an increased understanding of the management of neurosurgical patients”. I feel that I certainly achieved this, as my previous exposure to neurosurgery had a brief one while at medical school. The input of the neurosurgeons was required in most trauma cases, although many patients were managed conservatively and kept under observation. I saw several different trauma cases where emergency surgery was required, and in some cases the intervention was a lifesaving one. However, these patients are often left with severe deficits and require intensive rehabilitation and therapy, and unfortunately I was not able to observe this aspect of trauma management and neurosurgical intervention. I also saw cases where neurosurgical intervention ultimately proved futile, and the patients did not survive. This was difficult for everyone involved, although it is the reality when dealing with the most severely injured patients as a major trauma centre in London.

I was able to gain a wider appreciation for the range of conditions managed by the neurosurgical team, and learn about aspects of management that I had not come across elsewhere in my training, and this covered another of my objectives - "Assessment and management of common neurosurgical conditions". Although I have not detailed experience at managing these conditions, I feel that this elective has allowed me to understand the basic concepts in managing neurosurgical patients.

The one area that I have not built upon as much as I had hoped during my elective was the "Improvement of my clinical skills". I think this was partly due to the fact that I spent the majority of my time observing operations in theatre, and did not spend as much time on the ward as I normally would during a clinical placement. The terms of my placement were also that I was there in an observational capacity only, which meant that I was unfortunately unable to take part in any procedures or assist in any operations, which is something that I would have liked to do. Even though I have not practiced my clinical skills, I have become much more aware of what is required in a full neurological assessment, and I feel that this will enable me to assess patients more effectively in the future.

I have thoroughly enjoyed my elective in neurosurgery at King's College London, and I feel that by being able to observe a wide range of cases and procedures I have learnt a lot more about neurosurgery as a career. This is what I had hoped to get out of the placement, and I would certainly recommend it to anyone considering pursuing a neurosurgical career.

References

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