T. Ameen CARDIO-THORACIC

Elective Report on Cardiothoracic and Vascular Surgery

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MEMORIAL HERMANN

Objectives

1) Identify and Understand disease processes locally and how this compares to the UK?

2) How does the healthcare system overall differ to the UK?

3) What interesting cases were seen and participated in during ward rounds and in the operating theatre?

4) What opportunities for research were made available?

Report

I arrived in Houston to a warm reception equivocal to that expected from the southern United States; this southern hospitality was understandably a shock to the system to a man born and raised in the cold shouldered metropolis that is London. I pursued my journey to the medical centre...however, the magnitude of the place was particularly unexpected and the term *'medical CITY'* would be a more appropriate description. The hospital where I was based was Memorial Hermann and my placement located within the Heart and Vascular Institute (HVI). This Is an 8 floored, world leading centre built in recent, which dwarfs the London Chest Hospital in far away Bethnal Green. After a quick introduction to the vascular fellows I was ushered into the cold operating theatre (or, O.R. - a term I quickly had to adopt due to the bewildered look I would receive to my reference of theatre...this certainly wasn't Broadway).

The operative lists included a significant use of vascular catheterisation, in stark contrast to the UK where vascular surgeons are still acquiring a taste for minimally invasive operative procedures. I'm told this is mainly due to the early uptake of vascular catherisation by interventional radiologists in the UK, thus, the adoption by vascular surgeons was unfortunately delayed until now! The first procedure was a vena cava filter insertion, this is typically used on patients with lower limb peripheral deep vein thromboses, which are unsuitable for pharmacological anticoagulant therapy *e.g. Those with a recent history of hemorrhagic stroke*. I was humbled by the humility and confidence of the attending surgeon Dr. Azizzadeh - whilst maintaining a notoriously American sense of humour (once to my dismay at the expense of the NHS!). Other intravascular procedures of the first day included renal artery stenting, arteriovenous fistula formation and an open carotid endarterectomy. I felt that just within the first few hours of my placement I had seen more variation and breadth of the vascular speciality than I had in 3 weeks on a placement in the Royal London Hospital...all before lunch! The afternoon presented itself with the American Version of a surgical ward round, the patients all within separate 5* self contained rooms. An excess of nursing and health assistant staff which continually monitored the patients; did bloods and had prescriptions ready for doctors to sign. In effect the role of a foundation doctor was eliminated and there wasn't a patient note trolley in site, this was a ward round of the future. We approached a cardiothoracic patient whom had recently undergone a TAVR (trans aortic valve replacement). I pursued to place my stethoscope around my neck and was quickly given a look of notoriety by attending surgeon Dr. Estrera who jokingly uttered to me; "you are a surgeon, do NOT wear those tubes around your neck...you will give them to someone else who will pass

them to you when needed"...I laughed and appreciated the humour of the stereotypical character that is Dr. Estrera.

During the infrequent coffee breaks I noticed that there was a plethora of poorly targeted advertisements on TV, the distinct problem being that the pharmacological therapies were targeting pathologies which aren't typically associated with the medications and as such, this made me question the issue of patient safety – a topic I feel is taken much more seriously in the United Kingdom (where such adverts don't exist). I feel that as there are significantly limited provisions of healthcare to individuals without insurance, those people may source these medications from outlets without seeking concomitant medical advice; a potentially lethal combination.

One significant case in which I participated presented itself as both interesting and at first, not especially complicated...little did I know the impact this case would have on me! An elderly patient presented with a 3 day onset of copious amount of fresh blood PR – with bowel movements of up to 20 a day. The diagnosis after looking at the abdominal CT scan was an infected abdominal aortic graft which formed an *aortoenteric fistula*. The planned procedure to remove and replace the infected graft was quite routine for the HVI team. In the operating room the infected graft was dissected away from the bowel, and replaced – however, the blood pressure failed to rise even after giving the patient over 15 units of blood. It was evidently going somewhere hidden; Dr. Estrera took a scalpel to the right chest; from which 3 Litres of blood emerged. The chest had to be opened for exploration! The conclusion being that the internal mammary vein had been ruptured by the anaesthetist during the central line placement – it was a particularly humbling experience as it was the first patient I had encountered where despite a perfect surgical procedure, the patient died in circumstances out of our control. Again, this made me realise the importance of patient safety, and in accordance with current BTS guidelines – in the UK the use of ultrasound should always be implemented wherever possible when inserting central lines. The most hallowing case I have seen was created by my supervising attending Professor Safi, it is not performed routinely in the UK – the complete descending aortic graft. This is the removal of the entire aorta following significant atherosclerotic disease and replaced with a synthetic graft, from descending arch to iliac vessels. An incredibly delicate and time consuming procedure – requiring over 8 hours of work by 4 surgeons. I felt especially privileged to have participated in this.

Due to the limited constraints of time, my ability to engage in independent research was compromised. However, the team actively involved me in grand rounds and the gathering of intraoperative data. Some of this was presented just a few weeks ago at the 2013 Vascular Annual Meeting in San Francisco. In the future, I have agreed to assist in further research with the department.

Overall, I feel this was an incredible elective which gave me insight into specialities well beyond those typically associated with cardiothoracic and vascular fields – extending into obstetrics/gynaecology, interventional radiology, general surgery, cardiology and general medicine. I would happily go back in the future to pursue a fellowship with the department.