Edward Jeans: BSSH Travelling Fellow 2023

Visitation with Dr Vai, Khoo Tech Puat Hospital (KTPH) Singapore

Introduction to Fellow

This visitation was the final stop on my Post CCT Fellowship year. I'm a Hand and Peripheral Nerve Surgeon at Wrightington with an Orthopaedic background. I did my specialty training in the North East Deanery before completing the Hand and Wrist TIG Fellowship at Wrightington, Whiston and Alder Hey Childrens Hospital. Following this I went to Lerdsin and Siri Raj Bangkok Thailand with Dr Kanchai and Dr Roogsook to pursue my interest in peripheral nerve surgery for 6 months followed by 6 months with Albert Yoon North Shore Hospital Auckland New Zealand.

Leaning objective for visitation

During my TIG Fellowship I had had the opportunity to work with Professor McArthur and also Matthew Nixon who both had a neuromuscular practice. I wanted to gain further experience in this field. While I was in Bangkok I met many surgeon from across South East Asia and all said that Dr Vai was the person they take advise from for these issues.

KTPH

First impressions on the day were of a beautiful hospital, Dr Vai told me it had been designed with the idea of a hospital in a garden. The wards were immaculate and open plan with rooms looking out onto gardens. The KTPH is also committed to improving staff health with fines for being overweight and unhealthy foods in the canteen being sold at a premium.

Visitation experience

The one universal of all Orthpopaedic Departments is the trauma meeting and KTPH is no different. A very familiar set of x-rays of fractured neck of femurs, ankles and wrists started the Monday morning. Rounds followed, an observation that has been depressingly similar in each of my stops has been how the levels of staffing on the wards are so much better abroad than we have in the UK. I'm sure we are all familiar on an NHS ward of walking round trying to find a junior or nurse to ask about your patient or to hand over the plan and finding no one.

The first patient we saw was post op neurectomy. The patient was an architect who had developed a spastic hemiplegia following a stroke. The patient had had a highly selective neurectomy of the nerve to biceps. Before going to see the patient Dr Vai told me that he often finds that reducing the tone at one level often improves overall limb spasticity, he's even had patients that say their walking has got easier after upper limb neurectomy. The thinking being that reducing the gamma neuron feedback reduces the activity and cross talk within the spinal cord. True to this the patient reported that not only was the elbow better but the wrist position was improved and easier to bring into full extension.

The above patient represents one end of the spectrum of NM conditions, a young patient, well-motivated with an acute event. Later in the visit the other end of the spectrum was an elderly patient with long standing diagnosis of schizophrenia who had developed a focal dystonia secondary to anti psychotics. They had developed structural changes and had no voluntary control, therefore was listed for soft tissue release of the elbow and hand along with PRC and wrist fusion.

There are plethora of papers describing surgical procedures in NM conditions but what I got from this visitation was great insight into what works in which pathologies and when to offer surgery. An example being in stroke where there is an element of recovery and neural plasticity it is best to delay any intervention for 9-12 months. Questions still need to be answered as to does this type of surgery prevent the formation of fibrosis within the muscle and actually change the natural history of the condition. This then brings in other surgeries, such as the cross C7 transfer and the use of nerve stimulators. Both of which have their proponents but have yet to make it into common practice. Dr Vai is a keen proponent of the Cross C7 in post stroke patients. I don't have any experience with this in stroke patients having only seen the cross C7 in brachial plexus surgery used with a vascularised ulnar nerve graft.

On Wednesdays each week the hand team have a Day case list in a clinic in the town center of Yishun. Like the main hospital a very well designed building and a nice environment for the patients. The cases were all local anaesthetic only. Compared to our own walk in walk out surgery center at Wrightington they were less efficient, part of the issue was that the hospital had said that the local anaesthetic could only be administered in theatre as the patient had to be continuously monitored after infiltration, rather than blocked and monitored on the ward. I pointed them in the direction of the BSSH GIRFT guidelines on out of main theatre. One of the reasons for this guidance being developed was to provide evidence on what was safe practice and empower surgeons to do more LA only work and more efficiently.

There was a marked difference in clinics depending on where they occurred. In public it was a very busy clinic with 3-4 juniors seeing patients in rooms and Dr Vai moving between them. Foreign workers who are mostly involved in construction have to take out mandatory insurance as part of the work visa. They were seen in a private clinic on a Tuesday morning. 15 patients for the whole clinic so very relaxed. Often the workers would come with a manger as any injury to a worker was taken very seriously. In Singapore all work is covered by the Ministry of Manpower and they investigate any injury that occurs at work. The way this is monitored is that when a worker sees a doctor and is signed off that form is submitted to the MoM an absence of more than 1 day is investigated. I was left me in no doubt that the MoM takes a very dim view of companies being lacks on health and safety and that the penalties are harsh. My general impression was that the Singapore government in general takes a dim view of law breaking. Example a doctor under paid their taxes by 2000 SGD and was struck off and sent to prison for a year.

We often talk in the UK about health and safety gone mad. It very obvious the affect strong labour laws have in a country. Singapore seemed very similar to the UK. While work related

injuries to the hand and wrist do occur they are not that common and tended to be a result of a slip in concentration rather than a systemic failure of safety practices. When I was in Thailand whoever where there were almost no protections for workers, injuries were frequent and devastating. One that particularly sticks with me was a case of 4 finger amputation at the MCPJ level. Their job working a sheet metal press, with the only protection being good timing. The patient was brought in with their manager who's response to being told how serious the injury was being "they've only lost a little bit of their fingers". This was one on many multi finger amputations or whole hand, I saw while in Thailand.

One of the last cases I saw was a very sad situation of a young adult who was not typically developed. They had been neglected at home and had been chewing on their hands causing a very nasty infection, from the thumb pulp spreading down the flexor sheath of the FPL into the carpal tunnel. This necessitated the shortening of the thumb to the MCPJ level to get primary closure. Similar to the UK such cases of neglect are then cared for by the state. KTPH had 3 parts, the acute hospital, rehab hospitals and a long term care hospital. All housed on the same site. The hospital is actually pretty crowded. They continue to see an increase in patients from pre covid time and are awaiting the completion of an expansion site a few mile north of the existing campus due to open the end of 2023. Meanwhile on the public wards it was not uncommon to be sent to bed 23a where a trolly has been placed between beds 23 and 24.

With the current crisis in the NHS how different healthcare systems are structured and funded has been a topic I've discussed everywhere I've been this year. In Singapore there is a national insurance contribution but unlike the UK a person's payments belong to that person and not put into a central pot and distributed based on need. Your savings are put into a government investment fund, which you dip into as needed. This leads to some interesting discussions in clinic. I saw a young patient come with a dorsal wrist ganglion. Dr Vai was very clear to the patient you can have an MRI and then have the lump excised but it will be $10,000 SGD which is then 10,000 SGD you won't have to pay for health care when your older or you can leave it alone. As this fund is used to cover nursing care in later life which would otherwise have to be covered from other savings or family members it means there is disincentive to waste it.

<u>Singapore</u>

Of course I didn't spend the whole time at work. Singapore is a lovely city. Going out with the team to traditional food halls was great fun. The local dish the Laksa which is seafood in a spicy broth is very tasty, Mango with sticky rice also well worth a try.

Public transport is very well run the MRT costs only around 1-2 SG dollars for the 30 min trip from where I was staying in downtown Bencoolen to KTPH. I was lucky enough to be staying in Singapore for Luna New Year. A massive holiday covering four days. One day is dedicated to staying home for family time and praying to ancestors, a great opportunity to beat the usual crowds down at Marina Bay.

City planning is very good with lots of established trees and covered walkways meaning walking around is very pleasant. I actually saw a construction site where the mature trees had been preserved and the skyscraper built around them. This opposed to Bangkok where heat is just something else, there is very little greenery in the city and concrete acts like a heat sink so at night the temperature stays about the same as during the day which is just a killer. People often go and sit in the malls all day just so they don't have to spend money having the air con on at home.

<u>Final thoughts</u>

Dr Vai told me about how he first set up his neuromuscular service. Initially he tried telling the neurologists and stroke physicians that he ran a service for upper limb spasticity and contracture but had very little penetration so started attending clinics and examining the patient and discussing surgical options for in front of the physicians. The referrals started coming and now once per month he runs a joint clinic for spasticity issues. One of the things that first got me interested in neuromuscular conditions was the paediatric side. I worked with a great paediatric surgeon in James Cook Hospital, Middlesborough call Ade Adedapo. As if often the case with CP in younger patients they are referred for an Orthopaedic opinion with lower limb issues. I saw patient with him who was on that boundary between walking with assistance and full time wheelchair user. When presenting the case to him at the end he asked what else was an issue and pointed me to the upper limb contracture. I increasingly noticed these neglected contractures. When I had a chance to see more upper limb neuromuscular conditions during my TIG fellowship they were nearly always referred late once established contractures had developed. Parents or carers for older patients would often say how difficult it had been to get a referral and that they had often been told that there was nothing that could be done. As a surgeon who keen to develop a service for patients with neuromuscular conditions, my time with Dr Vai has really helped understand how to seek out partners in developing the service and getting buy in. Its already lead to me making contact with the stroke and regional neurological rehab center on forming a joint MDT for patient who may benefit from surgery.

My thanks to the BSSH Educational Committee for their support for this visitation, that has certainly lead to boarding of my knowledge and improvements in practice that I can bring back to the NHS.