

BAOMS Travel Grant Report – Andrew Bartram - India '19

Hospitals visited

The Narayana health group is a chain of privately owned hospitals throughout the Asian subcontinent. Narayana Mazumdar-Shaw Cancer centre is a nine floor cancer hospital based in the Narayana health city which comprises of a further 4 hospitals on one site on the outskirts of Bangalore.

40,000 people per day work in or use the hospital site. The hospital receives patients from all over India, owing to the combination of their reputation and that treatment costs are low- as low as 1/3 of the cost compared to that in a large centre in Delhi or Mumbai. In this department the cost of a major resection, free flap and adjuvant treatment is approximately £2,000. The unit performs around 60 major cases and 30 free flaps per month over 4.5 operating days in the average week. 13,000 patients per year are seen in the outpatient department.

Amrita hospital in Kochi, Kerala is held in deservedly high regard in India and the wider world: the head of department Dr Subramania Iyer has a personal experience of over 3,500 free flaps, performs hand transplants and is waiting to complete his first facial transplant. He counts names such as Rui Fernandez as previous fellows of his unit. Amrita has 3 consultants and performs similar numbers of cancer cases and free flaps to Mazumdar-shaw with additional busy practices in facial reanimation, ear reconstruction and general plastic surgery. The hospitals reputation draws patients from all over the middle east and south-east Asia.

Comparison with the UK

Head and neck cancer is the most common cancer in India making up 30% of the country's cancer burden. An incidence of oral cancer over three times that of the UK means there are over 175,000 cases of mouth cancer per year.

Head and neck surgeons are either OMFS, ENT, plastic or general (oncological surgeons) coming into a common 3 year training pathway after their initial training. Resections and reconstructions were shared throughout the team in both centres, irrespective of route taken into fellowship.

These units do as much in a month than medium sized units in the UK do in a year, the organisational efficiency, philosophy of treatment and team dynamics which allow such productivity were of great interest to me, returning to an NHS where productivity and efficiency are becoming increasingly important.

Patient Factors and Pathways

In Bangalore they have a large number of buccal SCCs is due to the habit of chewing tobacco.

While the presentation in South India has fewer of these cases due to a reduced prevalence of the habit, this is compensated for by the increased incidence of other oral cancers accounted for by a genetic predisposition in the population.

Both centres demonstrated a vastly increased proportion of locally advanced tumours to the UK. The propensity for late presentation is multifactorial, with multiple barriers to the provision of care: The cost involved in seeking medical attention is a barrier to many patients and means that they often 'bury their heads in the sand' hoping that things will go away rather than spend money on seeing the doctor, which they can ill afford.

Patients often try home remedies and then traditional medicine before attending a hospital or doctor. This is compounded by a lack of awareness and understanding in the poorly educated portions of the population – a factor demonstrated by the fact that Kerala with better access to healthcare and a literacy rate of over 99% have fewer late presentations.

There is a variance in treatment planning across the country and feeder hospitals: patients often present to the large surgical centres with recurrences after having primary radiotherapy for a T1 or T2 tumour.

Patient selection for treatment in India is different: Patients often present as emaciated or cachectic, a combination of late presentation and severe trismus associated with buccal SCCs. During my entire visit there was not a single case which went to the tumour board (MDT) and was not listed for resection. While this could be dismissed as a 'knife happy' approach, in my experience these patients all did well postoperatively. Although as previously mentioned distant spread is a problem (anecdotally, the heads of department in both centres told me that they lose their patients to distant spread, their tumours are usually cleared), even with advanced disease I think that the fact that these patients have hard physical jobs means they have a level of fitness we do not see in some of the patients who present with similar tumours in the UK.

The volume of work which passes through these centres and the demand on the services is immense. This necessitates a different approach to both the planning and delivery of care:

The team and its dynamic: The system in India is very hierarchical and the surgeon is undoubtedly at the top of this tree. All specialties are seen as providing a service to the consultant surgeon and the dynamic of the team is very top heavy. The fellows (comparable to registrars) get hands on training in one portion of one case per day and the rest of the time the consultant operates to ensure the work is done at the required pace. As one might expect speed is of the essence in their operative technique; procedures are standardised and kept as similar as possible to enable efficiency. Monopolar is used for almost everything (even skin incisions) and blunt dissection rather than sharp, scissors and scalpels are rarely used.

Patients are anaesthetised and on table ready for Knife to skin at 0800 (or even earlier), all turnaround and anaesthetic times are fast. All operating days would count as extended 3 session days in the NHS. In my previous experiences of working with NGOs in Kashmir I remember Indian colleagues describing their work as their worship: This is certainly true; their work ethic and commitment are commendable.

Treatment planning: There is a utilitarian approach to reconstruction in the main: Soft tissue and pedicled flaps (especially Pec Major flaps) are used more frequently than in the UK.

Lack of bony recon: in the cases of bony involvement for resection of large tumours that spread from the buccal mucosa, the resection and defect to reconstruct is both large and requires laxity to avoid post-operative trismus. This is overcome by using large volume soft tissue reconstructions, rather than reconstructing the bony deficit. They accept mandibular deviation and attempt to control the drift of the chin point and the occlusion with elastic traction. To minimise the chances of trismus the flaps are inset with laxity and the mouth at maximal opening. Typically they use an ALT flap for bulk and de-epithelialize then over-sew overlap. The units accept from the standpoint of dental occlusion and function and aesthetics this is not ideal but avoids trismus. If patients survive and have the means, a fibula flap is considered at 2 years.

For the (rare) tumours involving hard tissue which are proportionally more common in UK practice they have a similar approach to ours.

Specific Learning Outcomes:

Free Flap Reconstruction and Microvascular Surgery

Soft tissue flaps:

ALT: used frequently and harvested with large portions of vastus on a regular basis. Similar technique to the UK though often harvested with large sections of vastus lateralis for bulk.

RFFF: I learned a new technique to raise this flap and dissect the pedicle which enables it to be done very quickly – in the region of 15 minutes. I also had the opportunity to learn the technique for palmaris longus tendon harvest to reconstruct the commissure.

Lateral Arm flap – I observed this flap for the first time.

Hard Tissue defects: DCIA and Fibula used regularly. Similar techniques used to UK. Fibula perforators dissected out regularly to give freedom of orientation of skin paddle.

Microvascular surgery:

Speed and reproducibility are their bywords. VCs only are used for venous anastomosis, though rarely more than one. They tend to work their way around vessels rather than use the technique we use. For speed, two stitches are placed then tied in one after the other with the intervening loop cut.

Regional flaps in reconstruction:

Pectoralis major flaps are regularly used as a first port reconstructive option in cases, which reflects the utilitarian approach to reconstruction and need for speed and reliability in busy operating lists.

In Amrita the FAMM flap is commonly used to reconstruct intra-oral defects of the floor of mouth and lateral tongue, the latter would be managed with a laser resection in the UK.

There were also a number of submental island flaps performed. This seems a useful technique which I am keen to add to my practice.

Complex Mid-facial and Base of Skull Resections

In Bangalore they have a large number of buccal SCCs is due to the habit of chewing tobacco. Late presentation of these tumours means that at least once a week they perform a resection for one of these SCCs which includes a segmental mandibulectomy (or as a minimum a lip split mandibulotomy), hemimaxillectomy ITF clearance (with or without further skull base resection) along with resection of skin. Throughout my time in India I observed and assisted in over 10 such resections.

I was also fortunate to observe a midface palliative resection of a sarcoma as a joint case with neurosurgery.

Prelaminated Free Flaps

The technique used to reconstruct traumatic microtia in Amrita involved the harvest of cartilage and creation of a framework which was then tunnelled into a radial forearm flap. This was then harvested at an interval and implanted.

My 6 weeks in India exposed me to a large and varied volume of resections and reconstructive techniques of free flaps in a short period of time. The size and nature of defects I saw are rarely encountered in UK practice. I was fortunate to work with some excellent surgeons who were kind enough to take time to teach me and discuss the rationale for their techniques and treatment plans which was a great learning experience. As detailed above, I have observed a number of learning points; both technical and philosophical – some of which I will take forward in my career in head and neck oncology.

I would like to thank BAOMS for their support.