RSO Hernia Teaching Report


LAST

AMECA and LAST

RSO Hernia Teaching Report, Malawi May 2014

Introduction

Between 2013 and early 2014 a team of 7 medical professionals from south west London were recruited to deliver training to Resident Surgical Officers in rural hospital in Malawi.

The Team was assembled by Paul Thomas (Surgeon, Epsom and St Helier Hospital) and Caris Grimes (Surgical Trainee SW London), sponsored by LAST and the Tropical Health and Education Trust and supported by the Academic Surgical Department at Queen Elizabeth Hospital, Blantyre and AMECA.

The aim was to deliver training in performing the Lichtenstein Hernia repair to Resident Surgical Officers in selected rural hospital followed by teaching of surgical trainees at Queen Elizabeth Hospital.

The authors were assigned Nsanje District Hospital at the southern tip of Malawi.

1. Nsanje

1.1. Climate

Nsanje is virtually at sea level and on a flood plain. It is hot and humid. The coolest months are in winter between May and July. From October the temperature rises and can reach 45 or even 50 degrees centigrade in November. The rainy season is November to March and the humidity is high although of the five days we spent at Nsanje in May we had rain on three and a small umbrella or light rain jacket might be needed.

1.2. Travel

The journey from Blantyre to Nsanje is straightforward and takes 3½ hours. The road is the M1 but not marked as such. From the Illovo sugar compound in Limbe turn right and under a hording to a roundabout at the start of the Limbe Market one way system. After exiting the one way system you pass a minibus station on the right opposite a puma garage. At the next two roundabouts go straight on and the road becomes dual carriageway. Along this stretch you will go under the Independence Arch. At the next roundabout go straight on. Shopright is on the left after this roundabout. At the next roundabout again go straight on. At the next roundabout, with a large glass Iveco office block on the right hand corner, turn left. Follow this road past the medical school and across several large junctions until it meets a T junction with a large Presbyterian Church on the left hand corner. Turn left. This is the M1 and it is one road for 175 km to Nsanje. The road quickly meets the escarpment overlooking the Shire (pronounced Shee-rey) river and its flood plain winding down in two stages. There is a viewing area on the left shortly into the first descent and worth a stop. Overtaking on bends is not recommended even if stuck behind a slow moving sugar cane truck. As you descend the temperature and humidity rises. There are three police road checks between Blantyre and the Shire River crossing at the bottom of the escarpment. Keep your driver's licence and passport to hand in case they are needed. Have a full tank of petrol before you start and top up when you see a petrol station as they may not have petrol if you run low and really need it. There are multiple stations before you reach the escarpment and one just after the river crossing on the right, going south. There is another about half way into the journey at Nchalo and another half way between Bangula and Nsanje at Tenkani both on the left as you travel south. The one at Tenkani is easily missed. It has no sign, set back from the road and has only two pumps. There is a fuel station in Nsanje just past the hospital on the right, opposite the bank and the turning to the town centre and port. Fuel prices vary but for petrol in 2014 it was MK850 per litre.

Approximately 15 km from Bangula the tarmac road gives out to a wide mud track, which diverted to the right through a local village 5 km after that. The road becomes tarmac again at a roundabout after Bangula. Nsanje is to the right at the roundabout and another 45 km. The hospital is on the left as you enter the town.

Iris Africa is 3 km before this roundabout and just before Bangula on the left and surrounded by a high brick wall.

When driving the speed limit is 50 km/hr in villages and towns otherwise the national speed limit is 80 km/hr. Livestock on the road is common and cyclists and pedestrians with large loads line the road. Take care and use the horn. Do not drive at night. Local traffic will use the road without lights and accidents are common.

We visited the river and port at Nsanje to view the area. The river is populated by crocodiles; a protected species. We were warned that the hospital sees regular injuries and fatalities from these animals.

1.3. Accommodation

We were given accommodation at the Iris Africa compound in their guest quarters. These are shared, sex segregated rooms with separate, segregated shower and washrooms supported by hot and cold water. The tap water is drinkable. There is a continuous electricity supply, the output and sockets are UK standard. There is a well-equipped communal kitchen. It is self-catering unless otherwise organised in advance. You need to bring food for breakfast and evening meal. Be prepared to share with other visitors. Fruit, veg, tinned food, dry goods and some meat can be sourced locally from shops in Bangula or Nsanje. Supply your own milk, bread and anything pre-processed for all meals from Blantyre.

Iris Africa is a Canadian, evangelical, charismatic Christian organisation. The compound contains an orphanage for 70 children from 3 to 18 years, school, church, theological college, fish farm and arable land. They were building a skills workshop while we were there. It is funded from donations and we paid the equivalent of $6 per person per night and made a donation of $50. Take some gifts of food (biscuits, cake etc), sweets, pens, pencils and paper.

The compound is just north of Bangula and approximately 50km from Nsanje. Leave an hour to get to the hospital. Turn left out of the compound along the M1 and through Bangula. Turn right at the roundabout just past the town centre and then straight through to Nsanje.

Our visit coincided with the presidential election on May 20 and elective surgery was cancelled at Nsanje on this day. We were advised to stay on the compound and undertook a general clinic at Iris Africa at the request of Jo Iris and saw a number of the orphans and local villagers with varying medical and surgical conditions.

There is a bank with an ATM at Bangula next to the Mosque. Apparently the bank will not exchange £50 notes. Opposite this is a shop that can add credits to a mobile phone with an Airtel SIM card (red frontage) and a grocery store (green frontage).

Outlets and ATMs in Malawi do not accept Mastercard (with the exception of one bank in Blantyre) although those that take cards will accept VISA.

1.4. Nsanje District Hospital

Nsanje hospital serves the southern Malawian province of Chikwa which has a population of 250,000 although many patients cross the border from Mozambique for treatment. The hospital has surgical, medical, maternity and paediatric wards staffed by nurses and resident medical officers for each specialty. When we were at the hospital there was only one doctor, Dr Yamikani, the District Medical Officer, who is the principal administrator and supervisor to the RMOs. A second doctor, Dr Matchaya, the District Health Officer was out of the country for our visit.

The hospital supports plain radiology and ultrasound but no other imaging. The labs can perform FBC, cross match, U&E, LFT, glucose, CD4 count, hepatitis B, malaria screen and a gram stain.

Every morning, except Wednesday, at 07:30 in the conference room in the administration block there is a handover meeting. It starts with prayer, supervised by the District Medical Officer and is attended by all the medical officers for the various specialties. “Special” cases are presented from the previous day on call and the RMO presenting is questioned about the case. We were expected to attend this meeting and reported back on the course on the last day. On Wednesday the DMO performs a general grand ward round which we were unable to attend due to theatre commitments. At the handover round the patients for the hernia procedures were noted and it is worth asking to see the record book for the male surgical ward (and female if appropriate) to determine the number of patients.

There is one theatre for all specialties at the hospital and elective surgery stops for emergencies such as caesarean sections.

The normal elective operating day for general surgery is Tuesday. However we were given the theatre for every day of the week (except the election Tuesday) for the hernia course at what appears to have been significant sacrifice from other departments and theatres. This explains some of the sterilisation difficulties encountered.

Patients were consented on the ward pre-theatre by the two RMO’s we were teaching. Patients were then brought on trolleys to the theatre corridor to wait for surgery. We reviewed and marked all patients here. Patients are not routinely marked and we encouraged the RMOs to do this.

Adult hernia procedures are done under spinal anaesthesia by an anaesthetic RMO. General anaesthetics are thiopentone, suxamethonium and halothane, or ketamine.

Except for the final day there were no nurses to assist at the operating table. Theatres allowed only two people at the operating table to save on sterile gowns and surgeons double up as the scrub nurse. On the final day a teacher from the Nursing School was assessing students in theatre who were allowed to scrub in.

The instrument sets are basic, variable and unsorted. Be prepared for over or undersized instruments which may or may not be sharp or grip as expected. There is no routine counting of instruments or swabs.

There is no functioning overhead theatre lamp. We operated on the first day by the ceiling strip lamps and window light. On the second day we brought in head torches which made a significant difference.

The theatre has a functioning air conditioner. Ask for it to be turned on.

The theatres have a diathermy (Valleylab Force II) which they use with a multiply reused, single use gel plate and hand pencils sterilised in Cidex trays kept in theatre, and reused. It has foot switches which do not work.

The hospital provided a communal lunchtime meal of rice and meat or bean stew for all the theatre staff which is eaten from plates with fingers. We took spoons with us after day 1. Apparently the food was upgraded for our visit and is usually just maize meal and vegetables. On day one before we realised food was supplied we bought (extra) food for the theatre team (11,000Kw) on the two other full days we bought a case of soft drinks (3,000Kw) to supplement lunch.

Take lavatory paper as the hospital supply is variable in the staff facilities.

In four days we operated on

Day 1. 19.05.14. 4 patients. 4 inguinal hernias

Day 2. 21.05.14. 2 patients. 1 inguinal hernia, 1 bilateral hydrocele and orchidectomy (hernia repair left for a future date).

Day 3. 22.05.14. 5 patients. 1 herniotomy, 5 inguinal hernias one with simultaneous bilateral hydrocoeles.

Day 4. 23.05.14. 5 patients. 3 unilateral and 2 bilateral hernia repairs including one patient with a double Ogilvie's hernia.

We assumed every patient had HIV and used appropriate precautions when examining and operating.

Both theatre autoclaves had broken down 2 months before the course. While we were there operations were limited on day 2 due to the lack of sterile packs and gowns. Packs were being sent to Chikwawa and Trinity Hospitals, 80 km away and surgery could not continue for the lack of sterile equipment.

1.5. Teaching

We taught operative technique in theatres and knot tying in the staff room. The LAST PowerPoints were loaded onto a tablet computer that was available for teaching the two RSOs in a small group. We did ward rounds to view sick patients on request.

Be prepared for patients of all ages and hernias of all sizes. We performed a herniotomy on a 1 year old at one extreme and an adult with a chronic, giant inguinoscrotal hernia in which the sac was over 2mm thick. We had several patients with giant hydrocoeles' one the result of a sterile testicular torsion or trauma that required an orchidectomy.

Our two resident surgical officers were Laston Nthukutu and Joseph January. Both had competent surgical skills and were keen to learn. We taught them the Lichtenstein inguinal hernia repair using precut, sterilised mosquito net sent out by LAST. They picked up the techniques quickly and were competent in the technique by the end of the 4 days we were at the hospital. The hospital had the suture materials required which we supplemented. We taught and encouraged hand tying of knots and the use of subcuticular skin closure. They were shown an Aberdeen knot for the first time and picked this up quickly. We also encouraged the use of a self-retaining retractor and diathermy which are not routinely used.

By the 4th day we were in a position to watch them operate together (their usual arrangement) on a unilateral repair, a simultaneous combined bilateral repair and operate alone with a student nurse without either of us being scrubbed in. All procedures went well.

We saw patients postoperatively on the ward the day after surgery and taught that these patients do not need an IVI after they start drinking, can eat as soon as they feel ready, mobilise as soon as the spinal has worn off and can be discharged the day of or after surgery if urinating, eating, mobile and there are no wound problems.

We issued simple certificates of completion of hernia training to each RSO at the end of the course (appended) and copied the training materials and presentations supplied by LAST to a memory stick for each of them to use.

1.6. Equipment to bring

Bring your own gowns, scrubs, theatre shoes, double gloves, hats and masks. The scrubs and gowns at the hospital are in short supply and will not fit anyone larger than a medium at best. Leave behind anything you bring at the end. Sutures to supplement the hospital's supply are appreciated.

You will need a bright LED head torch for operating. If you can bring a couple to leave behind that would help the RSOs. They assured us batteries can be sourced locally at reasonable prices.

Additional diathermy plates, hand switches and tips would supplement the hospital's meagre supply.

Lightweight clothing, good walking shoes, light raincoat or umbrella. Clothes can be washed at Illovu and Iris Africa. Swimming costume, there is a swimming pool at Illovu and Iris Africa. A small rucksac to carry everyday stuff.

1.7. Hospital theatre needs

The following need urgent attention, repair or replacement

The overhead theatre lamp is old, has no bulbs and needs attention. Pictures are available.

Both autoclaves are broken and need repair. There is a larger fixed autoclave and a smaller Little Sister. Pictures of each are available

The green patient drapes are old, worn, have multiple holes and need replacing.

A purpose made reusable patient plate for the diathermy similar to the design given previously would make its use less hazardous.

The only anaesthetic pulse oximiter has a permanent fault that means the alarm is constantly sounding despite adequate readings (picture available). The devise measures only saturation and pulse rate.

The theatre door is currently off its hinges and needs fixing or replacing.

Floor tiles in the corridor and theatre areas are broken, hazardous and need replacing.

The six theatre common room chairs are broken and need replacing.

1.8. Future Consideration

Continued training in mesh repair technique for inguinal hernias. We are uncertain whether mesh could be sterilised locally as there is no facility to individually pack the mesh pieces. Mesh sourcing in the form of mosquito netting should be possible but all nets we saw were a wider weave compared to that supplied by LAST. We are uncertain who would fund procurement.

It is uncertain whether future visits should mean going back to the same hospital or follow surgical officers who rotate between rural hospitals approximately every 18 months.

The Intercollegiate Basic Surgical Skills Course. The training that we undertook would lean itself towards incorporating a formal Basic surgical skills course for a wider group of RMOs in a future visit. Our questioning of the RSOs' indicated that this would be best in Blantyre and they would expect rural medical officers to be able to travel. The Royal College of Surgeons of England has a programme of overseas BSS courses and could be contacted if this is to be pursued.

2. Blantyre

2.1. Accommodation

We were accommodated in the guest flat at the Ilovu Sugar compound in Limbe where Ruth Marcus (AMECA) is also resident.

This was at the gift of Ilovu who provided drinks and breakfast.

In lieu of accommodation costs we were asked to make a contribution of approximately £50 for the hospitality to AMECA.

We spent the first night after arrival in Ilovu before travelling to Nsanje on May 18th 2014 returning on May 24th when we meet up with Paul Thomas, Tom and Alison Loosemore.

2.2. Queen Elizabeth Hospital

During the second week we spent two days at Queen Elizabeth Hospital. On day one we followed a ward round with two of the General / paediatric surgeons in the morning. In the afternoon we divided between attending theatre (JM) and teaching the hospital registrars (TL, AL, PW).

On the second day we continued registrar teaching in the afternoon.

Subjects taught. Day 1. Abdominal Trauma. Day 2. Principles of Diathermy (request of registrars). A total of 4 registrars attended each afternoon.

It appears that the surgical department was not aware that we would be coming for the two days we were there, however we were accepted quickly by staff once the purpose of our visit had been established.

3. Appendix: Certificates