Urolink Visit Report – Ndola Teaching Hospital, Zambia, 15th – 22nd April 2023

Pre-trip planning

Dialogue and discussion before any trip can help maximise effectiveness of the visit, as well as defining clear objectives. This was the first visit of Urolink to Ndola so was very much a 'scoping' visit and needs assessment. To facilitate travel logistics the following documents were signed/stamped and taken as printed hard copies

- Medical equipment donation letter provided by BAUS Urolink
- Copy of visit acceptance letter signed by host institution Senior Medical Superintendent & Ministry of Health stamp
- Copy of signed letter between Urolink and local host urologists outlining purpose of visit
- Certificate of medical indemnity cover for 'medical humanitarian/voluntary work' cover

Took own theatre shoes and scrubs. No lab coat required as in some other places. Laptop for delivering presentations + adaptor for Mac to plug in USB drives.

Travel

- London Heathrow to Nairobi (8 ½ hours) overnight, 5 hour stopover then Nairobi to Lumbumbashi (DRC) (touch down but did not need to get off plane) then on to Ndola International airport arriving late afternoon
- Return via Proflight internal flight Ndola to Lusaka (4 flights per day, 15kg luggage allowance), then Kenya Airways leaving Lusaka 02.10 AM via Nairobi arriving London Heathrow by 16.15pm same day (there are outward flights directly from Ndola but overall journey time longer due to connection times)
- Zambian visa on arrival at Ndola International Airport (can also be arranged online in advance)
- Pick up from airport kindly arranged by Mumba Chalwe, but plenty of local taxi available if needed

Accommodation

- The Urban Hotel Ndola – close to hospital and good selection of food and drink. Discounted rates available online via booking websites and further reduced rate due to renovations in progress at hotel at time of booking. Excellent quality of accommodation, fast and reliable WiFi and pleasant surroundings. Taxi to hospital in morning for nominal amount (used same driver all week and messaged directly after meeting on first day) and used to walk back from hospital in afternoon (approx. 20 mins). Shops including supermarket and amenities, cash point etc very close to hotel.

- Alternative accommodation would be Starscape Hotel directly opposite hospital entrance, with 4 different tiers of room rate. Very convenient location and would be suitable for larger groups. Rooms looked reasonable and has WiFi.

Aims
Urolink has a longstanding link with University Teaching Hospital (UTH) in Lusaka, Zambia. Dr Simon Mukosai and Dr Mumba Chalwe previously completed their urological training at UTH and have subsequently set up a urology department and training programme at Ndola teaching hospital. At their request Urolink were invited to visit and consider extending the longstanding link with Zambia and establishing a new link with Ndola. This was a scoping visit to meet the team and hospital management, assess caseload and facilities, deliver some teaching activities and understand the local infrastructure with a view to establishing a longer term link.

Background
Ndola Central Hospital is the 2nd largest hospital in Zambia and is a third level (tertiary) referral centre for Masaiti, Ndola district, Northern, Luapula, Central and North Western provinces. Built in 1968 and officially opened in 1972, with 851 beds and 97 cot beds on 26 wards. Departments include; internal medicine, surgery (general, ENT, ophthalmology, orthopaedics, urology & dental surgery), obstetrics & gynaecology, psychiatry and intensive care.

Main theatre block consists of 3 operating theatres, 1 is reserved for Obstetric cases, 1 reserved for Orthopaedics and 1 shared between General Surgery and Urology – as a result each of the 2 urology units (led by Dr Mukosai and Dr Chalwe respectively) tend to alternate weeks to ensure they have a full day of operating

There are 2 additional COT theatres in the emergency department where urology residents perform acute/on-call procedures which appears to represent a significant volume of their surgical workload (eg open nephrostomy insertion, modified supra-pubic catheterisation and rarer but major procedures such as trauma nephrectomy)

There is also a further Obstetric operating theatre built next to labour ward but currently has a leaking roof and is awaiting repairs – once this is open it will free up capacity in main theatre.

Daycase procedure room – prostate biopsies, procedures under LA (circumcision, hydrocele)

Low-cost clinic (general outpatient clinic)

High-cost clinic (approx. 150 ZK paid by patient)

Inpatient – patients on several (5+) different wards. No specific urology ward. Majority on ‘male orthopaedic’ ward but large number of patients elsewhere, including ‘high cost’ ward. Capacity is good – ‘bed-sharing’ of patients or mattress on the floor is not an issue compared to situation in UTH, Lusaka.

Separate Paediatric hospital in Ndola which requires urology cover on unofficial basis
Small number of private outpatient urology clinics (but very few compared to Lusaka)
No separate cancer hospital – being built
No access to MRI (nearest in Kitwe)
No access to radiotherapy (nearest in Lusaka)
No MDT but referrals directly to oncologist as required
NHIMA – National Health Insurance Management Authority introduced in Zambia 2 years ago – patients qualify if > 65yrs of age or work for state or have option to join – allows free care so costs are met by government but there are limits on expenditure (for example a non-contrast CT would be funded but if contrast CT is needed the patient must buy own their own contrast)

Urology Department

2 urology units

  Unit 1 lead by Dr Simon Mukosai (also deputy head of surgery)
  Unit 2 lead by Dr Mumba Chalwe

Each unit has own clinic, theatre list and registrars/interns and will usually do separate ward rounds although during the visit combined 'grand rounds' were undertaken which were felt to be educationally useful so may continue on occasions. Both units tend to operate jointly for more major cases.

Currently there are 10 residents overall (with 5 senior residents having completed their training / exams) and this represents the 1st tranche of residents coming off the top of the training programme. A number of interns are also attached to each unit.

The registrars participate in a monthly audit meeting and summary of unit activity. An online record of COT emergency theatre cases has also recently been developed. Most departmental communication & patient hand-over occurs via WhatsApp.

Outpatient clinic

Example of patients seen in clinic as illustration of caseload and challenges. Clinic was very busy as after a long weekend = extra patients. At least > 100 patients in waiting room, shared with general surgery, not enough rooms to see all patients.

- Pelvic fracture urethral injury (PFUI) – had Mitrofanoff, led to stricture, attempted urethroplasty, attempted trans-vesical assessment of bladder neck but ? needs urethroplasty - <u>*> need for complex urethroplasty workshop*</u> (local team to maintain database of patients)
- Post-op Forunier's gangrene – newly diagnosed with 'RVD' (retro-viral disease) and started on HAART. Typical presentation. Treated with natural honey dipped in gauze to promote wound healing
- 74yr old with LUTS. Has had PSA testing from local lab (reported to be of variable accuracy depending on lab). LUTS improved when switched from Silodosin to Tamsulosin (is available locally)

- 85yr old with incidental renal cyst on USS – requesting treatment for incidental finding *-> the incidental finding 'incidentaloma' is going to be a growing problem in this context as increased use of imaging and some patient & clinician belief will impact treatment decisions*
- Metastatic prostate cancer – routine use of prostate biopsy -*> ? is it always needed*
- 71yr old with bilateral intra-testicular cysts – discussion about management, resident initial plan was for unilateral orchidectomy but settled on conservative management
- 39yr old with non-contrast CT & USS - 17mm parapelvic or simple cyst. CT reported as Bosniak 2F. Patient had read report and wanted treatment for loin pain -> *risk of over-investigation/treatment due to scan reports often suggesting management plan or further tests (it is then hard for the clinician to ignore these recommendations)*
- 73yr old with T4 prostate cancer, PSA > 100 (max upper limit in that lab 100). CT recommended but not done. Bone scan not available. Had bilateral orchidectomy. Had also been given up-front Abiraterone for 6 week course (used for selected patients that can afford) -> *evidence for short term use of novel anti-androgens in this way?!*
- Post-op inguinal orchidectomy for testicular mass – histology was TB orchitis (common presentation). Anti-TB medication started, increasing resistance to extra-pulmonary TB
- Routine post-op follow up after TVP (trans-vesical prostatectomy) for intractable haematuria & LUTS, good outcome
- Penile trauma
- Obstructive uropathy due to bladder mass. Previously had cystoscopy + biopsy but no confirmatory histology (necrosis only). Sandy patches seen – likely schistosomiasis. Patient requesting further biopsy/TURBT to establish a diagnosis although clinically has disseminated disease and renal failure -> *malignant ureteric obstruction is a major & miserable problem. Patient also requesting nephrostomy (would be done open and by urology team)*
- Erectile dysfunction
- Bilateral mild hydrocele – patient wanted surgery as had pain after hernia surgery

Weekly teaching timetable

At request of Dr Mukosai and Dr Chalwe a series of presentations were delivered over the course of the week to cover urological topics relevant to local setting but also to give flavour of UK practice and current updates. Schedule delivered as follows:

Tuesday

Introduction and background to Urolink
Case of the week – challenging endoscopic surgery
How to do a TURP
Bladder Outflow Obstruction & New Surgical Techniques (HoLEP & Rezum)
Practical aspects of assembling endoscopic urology equipment using local kit
How to do flexible cystocopy

Wednesday

Haematuria – how to investigate
Management of Infected Obstructed Kidney

Best of BAUS Oncology 2022 update
Urological Trauma management
Robotic Upper Tract Surgery

Thursday
Malignant Ureteric Obstruction
Prostate Cancer – Diagnostic Aspects
Metastatic Cord Compression
PROTECT trial

Friday
Grand round (teaching round) – both units
End of week summary
Future directions

Personal learning:

- Understanding of the local set-up
- Insight into common conditions & burden of disease
- Deeper understanding of healthcare system
- Equipment availability & needs
- Need to learn more about metastatic prostate cancer. In Ndola a lot of management is urologically led rather than oncology
- Insight into the benefit of 'surgical camps' – the NHS could learn from this set up!
- Need to amend Urolink charter (include suggestions of residents)
- Ndola has an excellent and collaborative team with major focus on education, training and setting up research initiatives

Outcomes

Recommendations for Ndola:
Many of these suggestions were provided by the urology residents during the course of the week and discussed at the feedback session on the final day of the programme, including:

- Introduce a more regular grand round (eg once per month) with both urology consultants present and all residents from both units – to facilitate knowledge exchange and promote inter-unit discussion and learning. Consider including a journal club or topic presentation at end of grand round – first volunteer is Dr Nshinka as her suggestion!
- Consider setting up separate outpatient flexible cystoscopy room to increase capacity in main theatre for more major cases
- Outreach / cystoscopy clinics to schistosomiasis endemic areas to diagnose bladder cancer at earlier stage
- Ongoing discussion with Urolink members – the issues of PSA screening, localised prostate cancer diagnosis and incidentalomas on CT scan will become rapidly increasing issue over next 5 years
- Consider educational benefits of grand round

Recommendations for Urolink:
Amend Urolink charter
Run more educational webinars

Next steps:

- Sign Memorandum of Understanding MoU (including urology departments in Kitwe and Solwezi to encourage regional attendance of urologists within referral area)
- BJUI Knowledge access for residents
- Plan future visits – to co-incide with surgical camp to maximise endo-urology operative training opportunities
- Research initiatives – prostate cancer

Summary

The future of urology in Ndola and Northern Zambia is very bright. Dr Mukosai and Dr Chalwe are excellent urologists and clinicians and in a very short space of time have set up and developed a urology unit. Their hard work and enthusiasm permeates throughout the department and this is reflected in their residents who are knowledgable and keen to learn and further their knowledge and skills. They have created a well-functioning department and the first cohort of 5 residents have recently passed their specialist exams and completed training. Obviously there are challenges including issues with lack of access to theatre and equipment issues but there is huge potential for ongoing development

Personal reflection

- Learnt a huge amount
- Link partly came about due to having previously met Dr Muoksai and Dr Chalwe when I was a registrar visiting UTH in Lusaka – Urolink should continue to encourage involvement of trainees in visits
- Acknowledgement of training by Dr Victor Mapulanga, Dr Bassem and Dr Nenad from UTH – this has helped significantly with the development of Ndola as a unit and as a training centre

Next steps:

- Medi-Tech proposal regarding Turis
- Consider writing TUF proposal to support webinars + Ndola link
- Local team to find out information regarding temporary licence for medical practice
- Plan dates for next visit to co-incide with 'surgical camp' with focus on endourological skills
- Consider collaboration with existing laparoscopic training link with general surgery: https://www.kcl.ac.uk/tele-mentoring-laparoscopic-surgery-in-zambia
- Arrange UK visit for trainees at their request – observership placement agreed in Exeter
- Arrange BJUI Learning access for residents
- Local team to complete 12 month theatre logbook review

1. DR. MAKANI LUNGU Senior registrar makanilungu@yahoo.com

2. DR. NTAMBO LUSEKELO Senior registrar ntambo.lusekelo@gmail.com

3. DR. BRIGHT CHIPILI Senior registrar brightchipili@gmail.com

4. DR. HERALD MUNKASU Senior registrar zaodyherald@live.com

5. DR. NAKAVIZYA NSHINKA Senior registrar mnakavizya@yahoo.com

6. DR. ANNIE MWEWA 4th year Anniemwewa89@gmail.com

7. DR. DICKSON NYANTA 4th year dicksonanyanta.dn@gmail.com

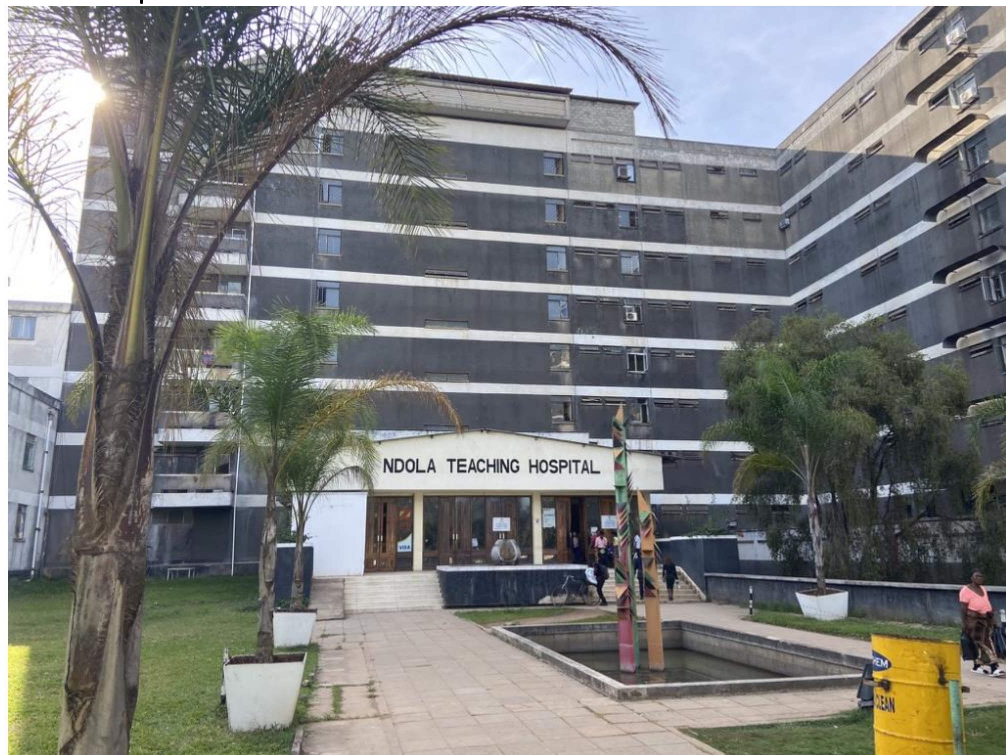
8. DR. CHISHA MATABULA 4th year Chishamatabula@yahoo.com

9. DR. KABWE MULENGA 3rd year chikungulukay@gmail.com

10. DR. JOSEPH KOPOLO 4th year josephkopolo@yahoo.com

Use of Urolink donated endoscopic kit in theatre:

Ndola hospital main entrance:



Equipment assessment / teaching:

First TURBT performed in theatre during week thanks to equipment donation:

Typical ward round (empty beds pictured to avoid any patient identifiable issues)

Resident-led cystogram review in x-ray department:

Urolink donation of equipment to Dr Funjika (Senior Medical Superintendent) & Dr Mukosai (Unit 1 lead & Deputy Head of Surgery)

Team phot final day of visit: