Professor Paddy Dewan and Dr Titus Pakop

18th February - 5th March 2017

A joint project of Kind Cuts for Kids, the Harare Central Hospital and the Urology Department of the Free State University Hospital

Executive Summary

Again, the Kind cuts for kids outreach has been a great success; medical students from two countries were educated, surgeons from Zimbabwe, Papua New Guinea, South Africa, China, and Ghana benefited by participation in the clinical work and teaching, during the 114th and 115th country visits by Professor Dewan.

We discovered one of the best pre-anaesthetic checks in the world, developed solutions to shortages of infrastructure and disposable equipment, particularly in Zimbabwe, and had clinical success with 32 complex cases, 24 of whom had surgery.

Importantly, the only complication was a defective catheter that dislodged in the ward and was easily replaced, with on anticipated transfusion as the only other adverse event; in the same patient. By any measure a successful contribution to international medical education and clinical care of major anomalies in African children.

An important component of the trip was the inclusion of a PNG surgeon who had been the successful applicant to a scholarship for a surgical trainee from another country that has benefited from KCFK's outreach; Dr Titus Pakop has proven himself a worthy recipient of the award, with him contributing to the productivity of the visit, an unexpected outcome being the development of the database of the cases managed by teams in PNG with the prospect of major research projects that may lead to PNG being recognised as a leader in anorectal anomaly management.

Dr Titus Pakop with Dr Zuva Faranisi in Zimbabwe; a picture that shows the connection to the Zimbabwe team to Dr Pakop and the friendship shown to him.

Zimbabwe

Introduction

Zimbabwe is a neighbouring country to South Africa, where Kind cuts for Kids has conducted several visits, and from where two surgeons have been recruited as members of visiting KCFK's teams, John Lazarus to Mauritius and Boeteng Nimako to Vietnam.

An introduction to Zimbabwe occurred during a visit to Cape Town in 2016, when Dr Meki, a Zimbabwian was undergoing training at the Red Cross Children's hospital; having identified the value of the expert teaching, he encouraged the Urology Unit at the Harare Central Hospital to negotiate a visit. Subsequently, the Urology and Paediatric Surgery Units explored the concept of a collaboration with Kind cuts for Kids, in what has unfolded to be one of the most successful visit for the charity, and **the most successful *first visit*** to any of the 21 countries in which the charity has volunteered.

The Harare Central Hospital, Paediatric Departments entrance and decorated corridor (top). Also shown is one of the two main theatres and the recovery area (bottom).

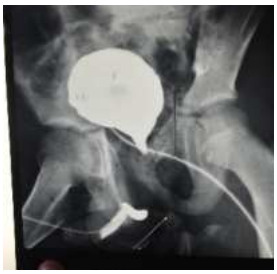
Consultations

In total, 26 cases were managed with the Urology Unit and Paediatric surgeons, commencing with an extended late afternoon clinic on Sunday to maximise the time available for theatre. Of the cases reviewed during the week, eight children had a disorder of sexual differentiation, two boys were afflicted with congenital obstruction of the posterior urethra (COPUM), two with hypospadias, one had a congenital anomaly of the penis, two boys with complete traumatic disruption of the urethra who had lived with an abdominal tube draining their bladder, two with urethral duplication, three patients with an anorectal anomaly, two of whom had other pathology; six patients had bladder exstrophy/epispadias complex, one boy had prune belly syndrome and another boy had a diverticulum of his posterior urethra – both of the last two patients had compromised renal function. A child with a congenital bowel stenosis was also assisted by the visiting team.

Clinical Cases

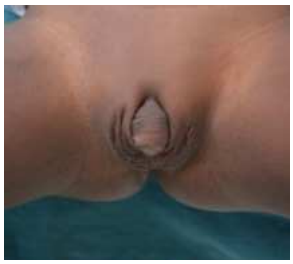
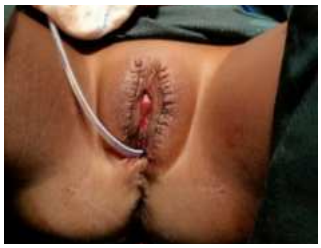
Case 1

The radiograph (left) shows the long gap in the contrast between the upper urethra (filled via the crossing catheter) and the urethra filled via the penis, which is to the left of the picture. A procedure developed by others, but used by Kind cuts for kids teams in several countries, was able to restore the connection and give the prospect of continence, to which the boy gave the thumbs up the following morning. His similarly affected friend will require the additional major procedure of having his bladder replaced.



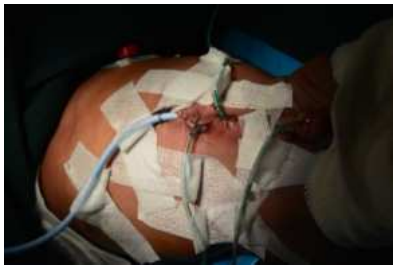

Case 2

Disorders of sexual differentiation are complex surgical cases, and involve even more complex, multifactorial decision making. Eight such cases were managed in Harare, including decisions to defer surgery in some and operate on others. The pictures show a "girl" with 46XX chromosomes, a vagina, but a gonad in the inguinoscrotal fold. The gender of rearing had been female, which seemed appropriate and informed the decision to do the surgery shown.

Case 3

Bladder exstrophy is a complex anomaly that results in the appears of the bladder on the surface of the lower abdomen, as shown below, repair at two weeks of age enables the bladder and pelvis to be closed without breaking the pelvis posteriorly, but with reliable closure using bilateral anterior superior pubic rami osteotomies, which was demonstrated to the Zimbabwe for the first time. The following day the boy was a hungry, healthy baby (right).


Operative Procedures

A total of 42 operations were performed, during a total of 17 anaesthetics on 15 patients; two patients had examination under anaesthetic early in the week to plan for major surgery that was performed later in the visit. The operations were as follows:

Gender	DOB	Date	Operation
Male	27-Mar-07	20-Feb-17	Urethroscopy
"	"	"	Vesicoscopy
"	"	23-Feb-17	Circumcision
"	"	"	Pena: Urethroplasty
Male	14-Feb-17	22-Feb-17	Bladder exstrophy closure
"	"	"	Omphaloplasty
"	"	"	Osteotomy Sup. Pubic left
"	"	"	Osteotomy Sup. Pubic right
"	"	"	Partial Urethroplasty
Male	01-Jan-06	24-Feb-17	Cystoscopy
"	"	"	Vesicoscopy
Male	10-Apr-11	23-Feb-17	Cystoscopy
Male	20-Nov-12	19-Feb-17	fulguration of COPUM
"	"	"	Urethroscopy
"	"	"	Vesicosopy
Male	07-Sep-11	21-Feb-17	Cantwell-Ransley Repair
Female	08-May-14	21-Feb-17	Cystoscopy
"	"	24-Feb-17	Clitoroplasty
"	"	"	Vaginoplasty
"	"	"	Vulvoplasty
Male	18-May-05	20-Feb-17	Cystoscopy
"	"	"	Urodynamics
Male	18-Oct-10	20-Feb-17	Cystoscopy
"	"	"	Partial Urethrectomy
"	"	"	Urethrourethrostomy
Male	05-Oct-15	24-Feb-17	Vesicostomy
Male	15-Oct-12	22-Feb-17	Cystoscopy
Male	29-Aug-10	20-Feb-17	Hypospadias UB I
Male	05-Feb-12	22-Feb-17	Cystoscopy
"	"	"	Fulguration of COPUM
"	"	"	Vesicotomy - partial closure
Female	04-Oct-12	23-Feb-17	Omphaloplasty
"	"	"	Osteotomy Ant left
"	"	"	Osteotomy Ant right
"	"	"	Osteotomy Post left
"	"	"	Osteotomy Post right
"	"	"	Vaginoplasty
"	"	"	Vulvoplasty
"	"	"	Insertion of fixation
Male	20/2/2017	23/2/2017	Laparotomy
"	"	"	Ileoileal anastomosis and resection

Major Surgery still required

The following operations were considered appropriate, but were unable to be performed because of the caseload, leading to the suggestion of a further visit in the coming months.

Gender	DOB	Pathology	Post visit plan
Female	01-Dec-15	Ovotesticular DSD	feminizing genitoplasty
Intersex	01-Jan-17	True hermaphrodite	Feminizing genitoplasty
Female	01-Jan-07	46XX, DSD	Feminizing genitoplasty
Male	21-Jan-17	DSD, Colon Anomaly	Genitoplasty
Male	11-Feb-12	DSD – minor	Hypospadias
Male	17-Mar-04	Ovotesticular DSD	hypospadias repair
Male	29-Aug-10	46XY, Gonadal Dysgenesis	Hypospadias UB II
Male	18-May-05	Bladder Exstrophy	ileocaecocystoplasty
Male	29-Jan-16	Posterior Urethral Diverticulum	Pena repair
Male	05-Oct-15	Prune Belly Syndrome	reconstruction
Female	07-Jun-15	Cloaca - Post Pena	Redo Pena
Male	06-Oct-14	Bladder Exstrophy, Imperforated Anus	surgery for either Bld or bowel

Hospital Staff

The ***theatre*** was well staffed with efficient, hard-working, healthcare professionals who were a pleasure to work with, including Lindiwe Maarira, Shamiso Dare, Idah Shaka (the Matron for all theatres), Cecelia Mukahahaha (Matron for the Paediatric theatres), Veronica Mahohoma, Chido Chirikure, Precious Mutiye, and Sr Mahlungwa. The ***anaesthetic*** staff involved in the project included, a volunteer from China, Dr Song, and Zimbabwian doctors Mandava, Mugero, Chigiti, F. Moyo, Kajese, Chifamba, Bingura, Gwanzura, Maveni, Chiputa, Munemo.

The ***Urology team*** provided great support, as did the ***Paediatric Surgical unit***; support that included hosting the guests, providing pre-visit planning, airport pickup and drop-off, hospitality and coordination of the patients, highlighted by the arranging of a pre-emptive clinic on the Sunday, which cleared the way to commence surgery on the Monday morning.

The Surgical team also included a volunteer from China, Dr Shen, as well as the Urology senior registrars, Dr Zuva Faranisi and Dr Cathbert Mudimu together with their residents Dr Manatsa Chimhamhiwa and Dr Osborn Muputa; a number of Paediatric surgeons also participated in the visit, including Dr Matanhike. Notably, Dr Arthanasius Dube, Head of Urology Training involved himself, with the principle contributor to the overall conduct of the study being the head of the Paediatric Urology Unit ***Dr Ladi Chonzi***.

The Harare staff and visitors gather for a ***team*** photo on the last day (left). And record of a brief visit with the Harare Central Hospital CEO by Professor Dewan and Dr Chonzi (right).

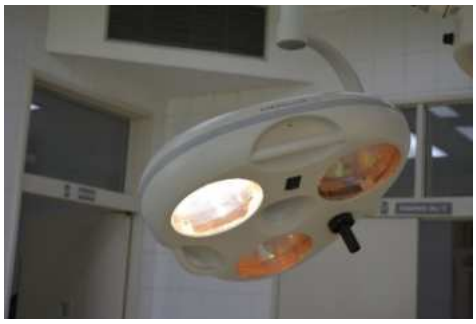
Hospital Facilities

The Harare Central Hospital has a significantly sized Paediatric Wing, with two main theatres and an intensive care unit. The theatre facilities are very good, but with the necessary onsite water storage because of the occasional loss of mains supply.

Access to radiology in the hospital was problematic with most of the investigations outsourced, except for nuclear medicine renal functions studies, which are currently not available for testing kidney function and drainage; that a significant proportion of patients could not afford the cost of the investigations further limited the investigation options. Ultrasound studies were only provided on thermographic paper with limited number of images. But, we coped!

Within the hospital, the infrastructure highlights the financial challengers in the Zimbabwe Health budget, including poor floor coverings, limited handwashing facilities, broken lights, poor theatre air-conditioning, a lack of silicone catheters, diathermy handles and plates are reused, instruments are soaked in cidex and, until donated, there was no ***Denis Brown retractor***, which is virtually essential kit for Paediatric Urology.

There were many aspects of the hospital and staff that were impressive: there was a great sense of collaboration between the parts of the team, including the Urologists, the Paediatric Surgeons, the anaesthetist, the administration and the nursing staff in theatre and the ward. One of the theatre practice that sets an ***international benchmark*** was the time out procedure, during which the team are brought together and all the important aspects of the patients intended anaesthetic and surgery are checked.



Top left – shows a theatre light with two missing globes, next is the nurse checking all aspects of the patient care before anaesthetic induction; the two lower photos show diathermy handles that are reused and the diathermy plate (bottom right) that is disposable in Australia and reused MANY times in Harare (needs must!)

South Africa - Bloemfontein

Introduction

The Urology Unit at the Free State University Hospital in Bloemfontein has assisted greatly with sub-speciality Paediatric Urology education, with this the third workshop sponsored and coordinated by Dr Freddie Claassen. On this occasion a Ghanaian Urologist, who was then appointed to a Fellowship at the Red Cross Children's Hospital, was given the opportunity to visit Bloemfontein, a move that was particularly significant given the expected visit of Kind cut for kids to Ghana, thus allow for Dr Partrick Maison to better understand what is involved in the coordination of a Kind Cuts for Kids visit. It is heartening that there has now been the involvement of both a Paediatric Surgeon and a Urologist from Kumasi, Ghana, the former being Dr Boateng Nimako, who went to Vietnam in 2016.

Hospital Staff and Facilities

The head of Urology at the Free State University, Dr Freddie Claassen, lead the management of the visit, with the complex cases presented by the Urology team. Collaboration with the Paediatric Surgical consultants also occurred, but they were not extensively involved. The patients were housed in the adult surgical ward, as there appears to be a deficiency of beds available for the care of Paediatric surgical patients, an arrangement that worked well.

Unfortunately, supplies of small dimension catheters are limited, but interestingly the diathermy pads that are reused in many countries are not reused in Bloemfontein.

The time available for surgical management of cases in theatre was relatively limited, but compensated for by Professor Dewan and Dr Titus Pakop taking the opportunity to work on the latter's education about the management of data, and to work on refining the data for Papua New Guinea.

A notable feature of the visit was the magnificent support given from both the anaesthetic (below left) and orthopaedic departments, particularly Dr Smit (below right, facing).

Consultations

The patients in Bloemfontein had the following diagnoses, most of whom were initially reviewed and underwent an ultrasound in which the visiting team participated on the Sunday of arrival, which both assisted the patients and enabled education of the local trainees and Dr Pakop.

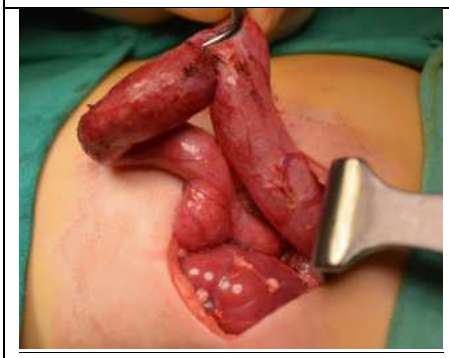
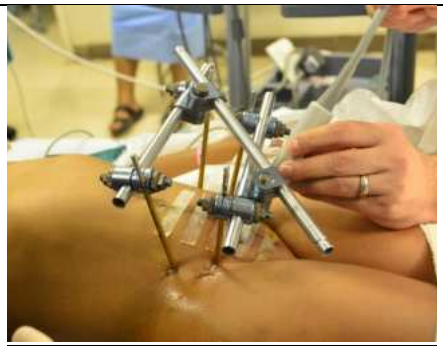
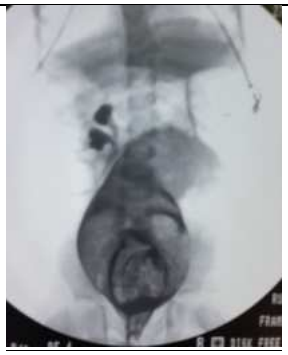
Bladder exstrophy	*3*
Bilateral PUJ obstruction	*1*
Megalourethra	*1*
Ureterocele/dysplasia	*1*
Duplex/ectopic	*1*
Cloacal anomaly	*1*

Clinical Cases

Case 1: A baby girl with a poorly functioning upper pole of a duplex kidney is shown during the operation.

Case 2: A female infant born with a cloacal anomaly, a form of imperforate anus, has an evaluation that shows a huge rectum for which she needs a major operation.

Case 3: A five year old girl with bladder exstrophy, with no urine control had her pelvis fractured in 4 places to facilitate closure to help with the development of bladder control

CASE 1	CASE 2	CASE 3
		

Operative Procedures

Gender	DOB	Date	Operation
Female	14-Oct-16	02-Mar-17	Ureterectomy - Distal Up pole
"	"	"	Heminephrectomy
Female	03-Dec-11	28-Feb-17	Osteotomy - posterior right
"	"	"	Wound Revision
"	"	"	Omphaloplasty
"	"	"	Osteotomy - posterior left
"	"	"	Osteotomy - anterior right
"	"	"	Osteotomy - anterior left
"	"	"	Perineoplasty
"	"	"	Insertion Pelvic Ext. Fix
"	"	03-Mar-17	Application of plaster
"	"	"	Insertion of IDC
Male	30-Jan-07	27-Feb-17	Ureterectomy - via bladder
"	"	"	Ureteroplasty – meatotomy
"	"	"	Vaginoplasty
"	"	"	Nephrectomy – lumbotomy
"	"	"	Ureterocelectomy – right
Male	16-Nov-05	26-Feb-17	Urodynamics
"	"	"	Cystogram
"	"	01-Mar-17	Young- Dees Urethroplasty
"	"	"	Abdominal Wall Plication
"	"	"	Epispadias Urethroplasty
Male	02-Apr-09	26-Feb-17	Cystogram
"	"	"	Cystoscopy
Female	06-Dec-11	27-Feb-17	Vaginoscopy
"	"	"	Cystoscopy
"	"	"	Cystogram
"	"	"	Barium enema
"	"	"	EUA
Male	20-Nov-05	02-Mar-17	EUA
"	"	"	Urethral Dilatation
"	"	"	Urethroscopy

Sponsors and supporters

Without the generous support of our donors, some of whom to not wish to be named as they prefer to be generous anonymously, we would not be able to provide the support we have given to South Africa and Zimbabwe. Equipment to the value of $14,083.66 taken for use in South Africa and Zimbabwe, and the majority was left for the local team to use after the mission; some items are for ongoing use, including a Denis Browne retracted left in Harare. The major sponsors supporting the trips and the equipment are:

Dr Freddie Claassen receives equipment during the visit to South Africa, which he is obviously happy about. Below the donations are being sorted in the hotel, then stacked for use in Zimbabwe.