Cuban Paediatric Urology and Nursing Exchange

A report for 15th September - 27th September 2007

Professor Paddy Dewan, Dr Rooney Jagilly, RN Nancy Gonzalez

A project of the Cuban Department of Health,
and
Kind Cuts for Kids Foundation

Overview

The visit to Cuba by the Kind Cuts for Kids team is called an exchange because it is very much a two way street of learning, while we provide assistance with difficult urological cases.

Rooney Jagilly, a surgeon from the Solomon Islands, arrived in Santiago, Chile, and waited for Professor Paddy Dewan to come across from a conference in Argentina. The two then flew to meet the Cuban team in Havana, where Nancy Gonzalez had arrived with the sutures and other equipment needed for the visit of the Kind Cuts for Kids Foundation to the William Soler Children's hospital.

The initial visit to Cuba was stimulated by contact between the Cuban Children's Fund of APHEDA, motivated by the late Tas Bull. Two visits were undertaken in 2003, with a focus on major Paediatric Urology at the William Soler Hospital; particularly patients requiring bladder exstrophy redo surgery. The funding for the first three trips has been provided by a combination of ***Northcote Rotary Club***, the Cuban Children's fund committee, and the generous donations from various companies, orchestrated through the Kind Cuts for Kids Foundation. The third visit was funded by the Kind Cuts for Kids Foundation, the Ministry of Health in Cuba, and by extending a visit to the Chilean Urology Society annual meeting. The visit in 2005 was again funded by a combination of the Ministry of Health, who funded the accommodation in Havana, the Urology Society of Cuba supporting the visit to their annual scientific meeting, and the Kind cuts for kids Foundation which provided the airfares for the surgeon and nurse. The latter monies came from generous donations following a presentation organized by the ***Preston Rotary Club***. Various companies also supported the visit, including Ansell, Qantas, Bard and Tyco International. The fifth and this, the sixth, visit were funded in a similar way to the 2005 trip, with additional funds provided from the fundraising efforts of the Board of the Kind cuts for Kids Foundation.

The visit was arranged to coincide with the inaugural Cuban Paediatric Urology National Symposium. An additional feature of the mission was the inclusion of a trainee from one of the other countries to which the Kind Cuts for Kids Foundation has provided support, with the dual benefits of Dr Jagilly providing assistance with the education of the Cuban surgeons, while learning from the experience and from the Cubans.

All clinics and surgery were conducted at the William Soler Hospital, but with the involvement of many surgeons. Those from William Soler included the Head of the Paediatric Urology Unit (Professor Rosario Calveat), Maria del Carmen Castro, Itsel Vela, and Marlen Guerra-Rodriguez, as well as members of the General Paediatric Surgical Department and Urology trainees. Professor Emilio Cordie Jackson and Dr Barbara Mora Casaco came from Havana Central Paediatric Hospital, and Dr Carlos Rodrigues visited from Juan Manuel Márquez Children's Hospital. Despite the transportation difficulties most of these people were involved in the surgical program on most days. The importance of the training program was highlighted by Paediatric Urologists from a Santiago de Cuba and Matanzas spending a week at the William Soler Hospital as part of the workshop and symposium.

Nurse Nancy Gonzalez and Dr Rooney Jagilly (left) focus on the message being delivered during discussions with the Senior Hospital administration at the start of the visit to the William Soler Hospital. Nancy was on her second visit, Rooney on his first (but not his last!).

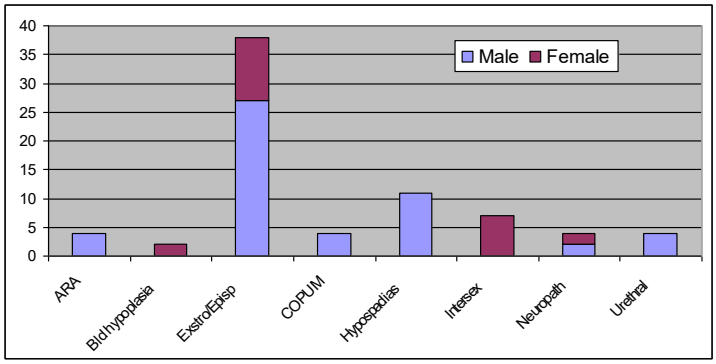
Dr Itsel Vela and Dr Marlen Guerra-Rodriguez are two of the Urologists at the William Soler hospital. This photo shows that they are not only extremely good at their job, but are enjoyable people to work with, as are the whole team who assist the Kind Cuts for Kids Foundation staff.

The embargo on Cuba has resulted in a decline in the state of the infrastructure, which has had further impact on the ability of the well-trained staff to assist the Cuban children with Paediatric Urology conditions who need surgery. In particular there is an ongoing lack of suture material and a lack of equipment to repair the electricity supply to the hospital, resulting in significant risk to the children and more suffering. The lack of materials to facilitate reliable electricity supply to the operating theatre are evident in the picture below, which was taken during an hour long interruption to the supply that suspended the surgery at a stage when the child's abdomen was open! Other problems included running out of surgical packs and cars breaking down during transport of the team to and from work.

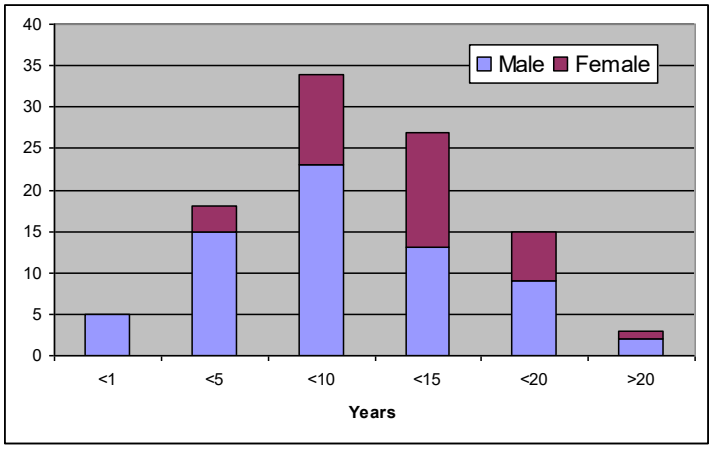
Consultations

A total of 39 patients were formally assessed, which was 5 less than the previous visit, although well patients did not come for review, as they were managed by the Cuban services between visits. The patients had all been screened previously, so that only highly complex patients were discussed and reviewed. Some of the patients had had surgery during a previous visit; others had surgery planned for 2007 during the 2006 consultation. Again, many of the patients had complex bladder exstrophy pathology, and scars from multiple previous surgery. The complex cases and the surgery will be described under the section on operative procedures. Those patients who were reviewed after previous complex operations had, in the main, a satisfactory outcome. Twenty-three patients went on to have surgery, all of which were major procedures. Several cases had been operated on previously by Cuban surgeons, and had an outcome that was considered unsatisfactory; obviously being ideal cases for teaching and collaboration. The principle focus of the surgical sessions was the establishment of continence in bladder exstrophy patients, and managing complex genital anomalies. The consults included a clinic that went until 10:30 pm!

Since the start of the program in 2003, a total of 89 children and young adults have been seen and 66 have gone on to have surgery, with a total of 287 procedures, during 103 anaesthetics.



The major group, of the 89 patients, have been treated for bladder exstrophy, with the others having mainly genital, anorectal or bladder anomalies.



Many children are now treated in their first year of life, whereas the age of patients treated has ranged from birth up to 22 years of age, with a mean of 9.4 ± 3.1 years. Dimitri is one the adolescents, and a boy who came to Cuba from Eastern Europe for sponsored treatment.

Four cases are described in detail, below:

Case Description 1

Hulio, a 6 year old boy was born without an anus, who was managed initially with the formation of a colostomy. A definitive repair was performed, but without the removal of the megarectum, which is part of the complex anomaly in some of these children. The barium enema and the operative findings confirmed the anomaly and the development of a normal bowel habit, in the early post operative days, highlighted the success of the procedure. Hulio is seen with his anxious mother before surgery (top left) and on day three after the surgery, being able to eat low fibre food without the risk of severe constipation, which, preoperatively, was due to the huge megarectum seen in the barium study (bottom left) and at operation (bottom right).

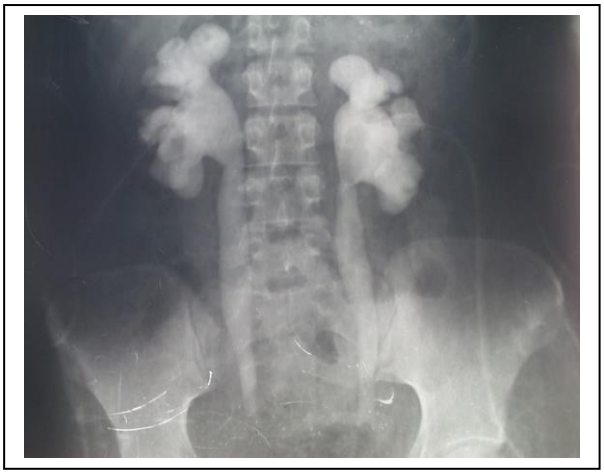
Case Description 2

Ramon, like Hulio was also born without an anus and lower rectum. His initial surgery did not produce continence, as there was a large residual pouch on the back of his urethra, deep within his pelvis. Hulio was seen in the clinic and an xray of his urinary tract ordered, which showed a large out-pouching on the back of his prostatic urethra.

Hulio was position in the prone, jack-knife position that facilitates the Pena, posterior approach to urethral anomalies. A large pouch was found and successfully excised. The post-operative course was complicated by the urethral catheter becoming dislodged, an event that highlighted the problems that occur with equipment deficiencies, and the need for further education regarding the post-operative care of such patients. Any harm from the catheter failure was minimized by the quick and definitive steps taken by the Cuban staff.

Case Description 3

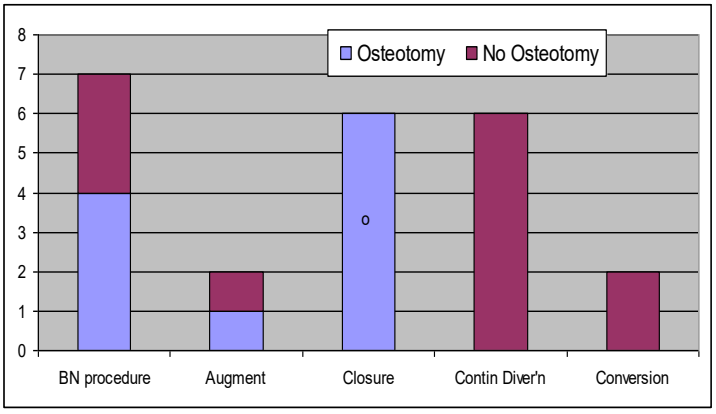
Annery first presented to the Kind Cuts for Kids team in 2003, at which time this teenage girl had a catheter into each of her kidneys, with having to live with pain, infections and the social embarrassment of an abnormality that had rendered her bladder useless. The first photo shows the catheters into her back and the radiograph (right) is a study with contract through the catheters, demonstrating complete obstruction of both lower ureters. Surgery in 2003 enabled Annery to live without catheters for short periods, and resulted in her only needing one catheter that exited from her abdomen, rather than her back. Infections and pain were virtually eliminated!



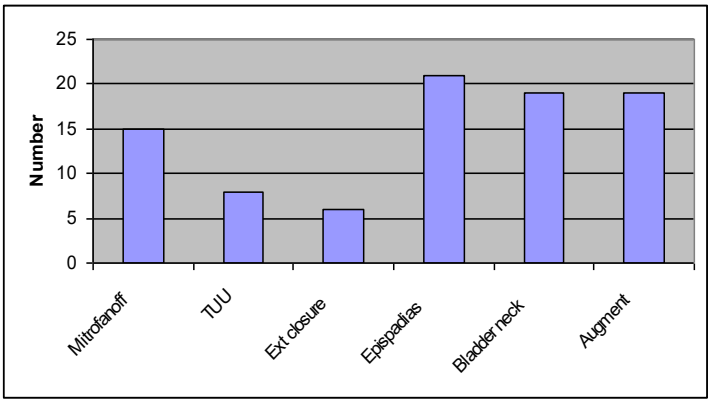
Annery came to the clinic this year insistent on having a continent diversion; the creation of an artificial bladder to be drained via a catheter 4 to 5 times each day. Despite the risks of such a major operation, this attractive young lady wanted to have the social benefit that had been achieved for many of the other patients treated by the Kind Cuts for Kids and Cuban team. Annery is pictured the day before and three days after a seven hour operation that gave her a continent urinary diversion, with an appendix Mitrofanoff and ileocaecal neobladder.

Case Description 4

Yusnel was one of the 38 patients who have been seen and operated on during the six Kind Cuts for Kids Foundation visits to Cuba. He indicates the improving outcomes, with a successful closure of his pelvis, bladder and lower abdomen being achieved at an earlier age than patients treated during the initial visits. Yusnel is seen with Nancy Gonzalez as he is about to be anaesthetized, and after his operation, in the ward.



Yusnel had pelvic osteotomies as part of the procedure to close his bladder and pelvis. The graph opposite shows the numbers of operations that have been performed on the group of bladder exstrophy patients, both with and without pelvic osteotomies. Six of the 38 patients born with the inner aspect of their bladder exposed to the skin, had a primary closure, while others had various bladder neck, augmentation and continence operations.



The second graph details the continence operations on both the bladder exstrophy and neuropathic bladder patients for all of the six visits of the KCFK's team. Of the 15 with a Mitrofanoff, which is the connection of the bladder to the skin with a tube, 10 had the appendix used, 4 a ureter and one a Meckel's diverticulum; an unusual additional piece of bowel.

Operative Surgery

All surgery was performed at the William Soler Hospital in Havana, with over 100 hours operating in 11 days (including all day Saturday and Sunday), consisting of 24 anaesthetic inductions. Twenty-three patients had 71 operations, all involving the assistance of the local surgeons, and the trainee from the Solomon Islands, and facilitated by Spanish/English translation by Nancy Gonzalez, other Cuban surgeons, and the improving Spanish skills of Professor Dewan. The surgeries performed are listed with the numbers for each procedure:

Cystoscopy	6
Mitrofanoff	3
Omphaloplasty	3
Bladder closure	2
Bladder neck transection	2
Pelvic Osteotomies	8
Clitoro/vaginoplasty	2
Wound revision	7
Hernia repair	4
Pena anorectoplasty	2
Bladder augmentation	4
Urethral repair	8

Cystolithotomy 2, Laparotomy 2, Perineoplasty 2, Urethral dilatation 2, Ureterostomy closure, Transureteroureterostomy, Urethrotomy, Rectosigmoid resection, Circumcision, Cystogram, Removal of urethral foreign body, Vesicostomy, Vaginovaginostomy. Complications were minimal, with only two minor fevers, one infection and one urethral catheter became dislodged.

The Cuban, Australian, and Solomon Island team work together to repair a genital anomaly in a young girl.

Surgical Teaching

Most of the surgical teaching occurred during the more than 100 hours of operating, but also during the ward rounds and the inaugural Cuban Paediatric Urology Symposium. Four lectures were presented as part of the symposium, namely:

1. Hypospadias chordee – current perspectives.
2. Ureterocystoplasty – Does it last?
3. Posterior approach to posterior urethral strictures.
4. Ureteroceles – classification and assisted incision.

Surgical teaching was enhanced by the involvement of surgeons from five different institutions from around the country, as well as several nurses from the William Soler Hospital. Surgical topics of discussion included:

1. Caudal anaesthetic
2. Rescue hypospadias repair
3. Redo anorectoplasty
4. Epispadias repair
5. Neobladder formation
6. Pelvic osteotomies
7. Ureteroureterostomy – pelvic brim
8. Bladder neck transection
9. Bladder exstrophy management
10. Bowel anastomosis with single layer

Professor Dewan is seen assisting one of the Cuban Anaesthetists to inject local anaesthetic into the caudal space, to provide pain relief in the operative and early post-operative period.

Surgical Resource Limitations

During each of the six Kind Cuts for Kids Foundation visits to the William Soler hospital the institution has provided good care to the children, but within buildings that lack many of the "fancy" trimmings of an Australian hospital, because of the embargo the country is subjected to. The Surgeons and Anaesthetists also have little contact with the outside world to enhance their skills and education for the subspecialty. Although many of them have the opportunity to work in aide programs to other countries that value the input of the Cuban medical system, countries such as Angola, East Timor and Venezuela. Despite the lack of sutures, and even some light globes, the staff developed inventive solutions, such as modifying knives to make instruments with which to perform osteotomies. Unfortunately, inventiveness cannot solve all problems, and the lack of suture material is a major cause of adverse surgical outcomes. Some of the other limitations include:

1. ***Old and poor instruments.***
2. ***Limited supply of ureteric catheters.***
3. ***Limited supply of diathermy tips and handles.***
4. ***Poor surgical drapes***
5. ***No adequate Paediatric cystoscope.***
6. ***No containers to discard sharp instruments.***
7. ***Stomal devices are not reliably available.***
8. ***Radiology hard copies often not able to be produced.***
9. ***No video recording device for fluoroscopy.***
10. ***Images of the ultrasounds are not always available.***
11. ***No nuclear medicine service in the Paediatric Hospitals.***

Many of these limitations have worsened since the first visit in 2003. Fortunately, the Anaesthetic equipment has been upgraded recently, but the other facilities have not improved. Water and electricity are not reliable in the theatre complex, as noted in a picture earlier in the report. Notably, instruments are often prepared for use by soaking in antiseptic solution, and glass syringes and reusable needles are often used

The most significant shortage is the lack of appropriate suture material. Even with the resources the visiting team provided, sutures used were often totally inadequate, but the best available from the limited supplies. The usually available materials are obviously part of the reason that the children seen during the visit had not had a successful outcome from their original surgery.

Donated Items

Donations to Cuba are an important part of the project, and many people and companies have assisted, including; Bard, Ansell, Tyco, Qantas, Smith-Kline Becham. On this occasion the sutures were donated by Johnson and Johnson. Recycled items came from theatres at Saint John of God Hospital (Geelong), Geelong Hospital, and Sunshine Hospital. Geoff Dixon and ***Qantas*** have assisted with arrangements for transportation of staff and equipment. More is needed to be done to ensure the welfare of the children having surgery in Cuba, and the types of items that are useful are indicated in the list below:

1 carton unsterile gloves
3 cartons urine drainage bags
2 boxes Cliney malecot catheters
10 ureteric catheters
1 box size 15 blades
1 carton sutures
30 feeding tubes
2 boxes gloves
3 cartons betadine
1 carton syringes
2 cartons face masks
1 box size 10 blades
20 hypafix dressings
50 urethral catheters

One of the main difficulties encountered by Cuban surgeons, who wish to operate on children, is a lack of suture material. The boxes of sutures shown were provided by Ethicon.

Recommendations for Future Visits

These recommendations are largely unchanged from the previous visits

Travel arrangements

The appropriate Visa should be organized in advance by the Cuban Health Department and the Cuban Consulate, and be provided by the Cuban Government.

Donations

Melbourne could supply a large quality of needed items, which should be sent ahead, via London, to avoid the difficulties in transport of excess baggage. Equipment should be transferred prior to the anticipated dates

Language

A member of the visiting team should be fluent in Spanish. Team members should also take time to develop some basis knowledge in Spanish. Members of the Cuban team should also preferable have some knowledge of English.

Surgical Topics

With regard to the teaching, research and service the following could be considered.

1. A lecture schedule, which includes the presentation on topics by the Cuban Urologists.
2. Case discussions on more common Paediatric Urology.
3. Research papers by Cuban Urologists and trainees.
4. Anorectal anomalies to form part of the surgery sessions.
5. Surgery on more common conditions, such as hypospadias and primary surgery for intersex.
6. A case list prepared prior to the visit.
7. Fetal hydronephrosis be an included subject.
8. A symposium to be included annually.

Theatre Management and Equipment

Containers to dispose of sharps should be made available, a count sheet for all items should be developed, the development of which will be part of follow-up visits.