

South Africa

Paediatric Urology and Radiology Teaching Program

7th – 12th August 2011



Professor Paddy Dewan and Dr Padma Rao

A project of the Kind Cuts for Kids Foundation, Australia,

and the

University of the Free State, Bloemfontein



Introduction

2011 has involved the fourth visit of the Kind Cuts for Kids Foundation to South Africa. Twice, Professor Dewan has been invited to participate in the biennial South African Urology Society Scientific Congress, the other two visits have been demonstration surgery and Paediatric Urology workshops, this visit being the second such occasion, with more Radiologic focus than previously.

Paediatric Urology and Paediatric Radiology are important specialties in any nation, but particularly in a country like South Africa where half the population is less than 16 years. As in many countries, the specialty that is focused on children with urological problems is newly developed, with only one specialized unit in the South Africa. Fortunately, there is a willing collaboration between Paediatric Surgeons and Urologists to improve the care of children with “plumbing” problems, as indicated by more than 60 registrants attending the two day symposium, some of who stayed on for the post workshop operating sessions.

Also, Paediatric Radiology is central to the care of children with Urological pathology, which is why Dr Padma Rao played such a vital part of the faculty at the symposium, having assisted in the interpretation of the radiology of the kids to undergo surgery, she presented lectures and contributed to the debate on the day of lectures, and orchestrated a series of further lectures to both Radiologists and medical students following the Urology workshop.

A two day symposium and associated workshop requires organizational and individual commitment, plus effort. The Urology Unit at the Free State University, headed by Schalk Wentzel, provided excellent support to the conference chairman, Dr Freddie Claassen, as did the urology, nursing, anaesthetic and radiology staff. Mention should also be made of the support given by several departments throughout South Africa, enabling surgeons from as far afield as Cape Town to attend the meeting. The program for the week is shown in Appendix 1.

The success of the educational event was made possible by generous contributions from the companies represented by their logo:





Lunch on the second day of surgery. The team atmosphere was electric, despite the anticipated victory of the Wallabies in the rugby!



The level of collaboration was no more evident than in the above case of bladder exstrophy, during the surgery for which the orthopaedic unit from another hospital assisted with, and learnt, the combination of anterior and posterior osteotomies. The width of the separation of the front of the pelvis is shown in the top left picture; the external fixture is shown in the bottom left image.

Surgery

The surgical component for the visit was coordinated through the Urology Department of the University of the Free State. Patients were arranged for review, both through emails to Australia before the visit and a ward round on the evening before the conference. The facilities for the conference enabled the procedures on the first day to be telecast to the auditorium where the 60 registrants participated in case discussion during the less eventful parts of the surgery.



Professor Schalk Wentzel (left), Head of the Department of Urology, works with his staff as part of the preparation for the conference, the organization of which was spearheaded by Freddie Claassen.

Diagnoses

All children reviewed were selected either for complexity or usefulness of inclusion as part of a workshop. Some of the more complex surgery was not performed, as the solution for the bladder agenesis, for instance, appeared to be the simple procedure of end ureterostomy. Thus, the decision about what to do that was the main educational point, rather than there being the need to demonstrate a relatively simple operation.

<u>Gender</u>	<u>DOB</u>	<u>Pathology</u>
Male	18/07/2008	COPUM
Female	31/10/2010	Duplex, ureterocele
Male	23/01/2003	Hypospadias
Male	17/12/2003	Anorectal anomaly
Male	10/10/2007	Bladder exstrophy
Male	24/04/2010	Hypospadias
Male	02/04/2009	Bladder exstrophy
Male	09/08/2010	COPUM
Female	15/02/2005	Bladder agenesis
Male	06/04/2003	Undescended testis

Operations

During this visit the number of operations performed was less than on other missions by the Kind Cuts for Kids Foundation, as much of the time was taken up by presenting lectures. However, the 60 registrants at the symposium increased the impact factor per operation markedly.

Name	Gender	DOB	Pathology	Operation
A, S	M	23/1/2003	Hypospadias + UDT + dysgenesis	Laparoscopy
"	"	"	"	Hypospadias repair – UB I
L, BG	M	17/12/2003	Anorectal Abn; urethral occlusion	Vesicotomy
"	"	"	"	Urethroscopy
M, D-L	F	31/10/2010	Duplex + Ureterocele	Ureterocele incision
"	"	"	"	Cystoscopy
R, L	M	10/10/2007	Bladder exstrophy	Wound revision
"	"	"	"	Urethroplasty - partial episp
"	"	"	"	Osteotomy post right
"	"	"	"	Osteotomy post left
"	"	"	"	Osteotomy anterior right
"	"	"	"	Osteotomy anterior left
"	"	"	"	Omphaloplasty
"	"	"	"	External fixature
"	"	"	"	Bladder neck closure
S, T	M	24/04/2010	Hypospadias	Hypospadias repair - UB I
W, A	M	18/07/2008	COPUM + stricture	Vesicostomy closure
"	"	"	"	Vesicoscopy
"	"	"	"	Urethral dilatation
"	"	"	"	Cystoscopy

Surgical lessons

There were many surgical teaching points that benefited patients, the surgeons and the new front line junior surgical team. Some of the techniques that were imparted were able to be focused on because of the increase in teaching manpower that comes with such a visit including:

1. Percutaneously assisted ureterocele incision.
2. Glans tunneling in hypospadias repair.
3. Posterior approach to urethral injury.
4. Posterior pelvic osteotomies.
5. Anterior osteotomies.
6. Anatomy of posterior urethral obstruction.
7. Hydronephrosis – the spectrum.



Professor Schalk Wentzel assists Professor Dewan (left) during a penile repair that was viewed by the lecture theatre audience who had a dauntingly better view, because of the magnification provided by the camera positioned over the operative field.

Radiology

During the days of surgery after the main part of the workshop, Dr Rao visited the Radiology Department, and was warmly welcomed. The department is manned by general radiologists performing both adult and paediatric procedures, because paediatric radiology is not a recognised subspecialty in South Africa. The radiologists were extremely keen to interchange ideas and hints on how to adapt procedures for children with the help of an expert.

The Radiology team at the Free State University Hospital include:

- Dr. Coert de Vries (Head of Department)
- Dr. Susan Otto
- Dr. Jacques Jause van Rousberg
- Dr. Eugene Loggenberg
- Dr. Frans Naude

Equipment:

The radiology department was very well equipped with some state of the art new equipment.

- MRI 1.5T GE scanner
- CT: E 64 slice dual energy HD Discovery
- Fluoroscopy: Siemens Axiom Artis
- Angiography: Siemens. Due to change to a biplane Philips system
- Ultrasound: 2 x Aloka; 7MHz linear and 3 MHz sector probes
 1 x Toshiba Nemiro; 3.7MHz sector, 7.5MHz linear
 and 6MHz cranial probe
 1 x Philips; 3.7MHz linear and 7.5MHz linear probe

The department is fully PACS integrated, giving good access to digital imaging with all the reporting performed from the PACS work stations (Philips I-site) and digital dictation (XIRIS Enterprise). Several cases were discussed as well as protocols for the evaluation of a number of conditions in children.

Thus, although the department is not lacking in equipment, they are looking to improve their subspecialty knowledge and expertise in paediatric radiology, particularly how to adapt procedures to achieve the best outcome for children and children's pathology.

Following the success of the informal interchange, the Director of Radiology was extremely keen to capitalise on our presence in the hospital, resulting in an impromptu lecture series for the trainees and Radiologists in the department, Friday 12th August. A total of five lectures were presented by Professor Dewan and Dr Rao, on a range of paediatric radiological and clinical subjects.

Radiology Department Lecture Series:

1. Ultrasound in the urinary tract in children.
2. Imaging of PUJ obstruction in children.
3. COPUM – New terminology for posterior urethral obstruction.
4. Vesicoureteric reflux in children.
5. Antenatal hydronephrosis.

The session was very positively received and it was agreed that at the next visit to Bloemfontein would include a concurrent workshop in paediatric radiology with lectures and live demonstrations on how to perform procedures on children.

Following the radiology lectures, a further impromptu lecture was arranged by Dr. Wentzel, Head of Urology, for the medical students, given by Dr Rao.



Freddie Claassen – the man who made it happen.

Recommendations

Paediatric Surgery

1. Surgical Instruments for Paediatric Urology should be upgraded.
2. Suture boxes from Australian Rotary Clubs should be encouraged.
3. Further symposia would assist South African Paediatric Urology.
4. Urologist from South Africa would improve their education and skills by participation in developing programs into other African Nations in collaboration with the Kind Cuts for Kids Foundation.

Radiology

1. Paediatric Radiological protocols should be developed.
2. Subspecialty training for some of the staff should be facilitated.
3. Opportunities for training experience should be explored.
4. Clinico-radiological sessions in Paediatric Surgery and Paediatric Urology should be established.

Conclusion

Bloemfontein is a University of high standing that is focused on continuous quality improvement in both Paediatric Urology and Radiology. Through collaboration with other specialist throughout South Africa, a teaching/learning opportunity has taken place that has been of benefit to all concerned. And, from the academic and philosophical interchange, extension of the educational intent beyond South Africa is expected.

Appendix 1



Invited local Faculty

Proff CF Heyns, SW Wentzel, DK Stones, J Snyman, Drr. J Lazarus, I van Heerden, W Vermeulen and Mrs L Grindell

The sponsoring companies of the symposium included:

Sunday 7 August 2011
Foyer Faculty of Health Sciences
Opening Function
Surgical Innovations

17: 00 Registration Foyer Faculty of Health Sciences

Desk and symposium bags sponsored by Adcock Ingram

19:00. Opening and welcome Function

Freddie Claassen

Ethics Lecture. Informed Consent

Prof Teuns Verschoor

Appendix 1 – cont'd

Monday 8 August 2011
Workshop

07:00 Breakfast Symposium : Adcock Ingram
Regional anesthesia in children. Dr Anthony Travers

08:00 Shuttle to Universitas Hospital main theatre.

08:15 Live surgery: Prof Dewan

Theatre case: A child with proximal hypospadias for repair.

A child with posterior valves for ablation and closure of vesicostomy.

Chair: John Lazarus and Freddie Claassen

The discussion will be coordinated with the surgery in theatre.

Selected cases for theatre may change if the children do not come for their surgery.

The aim of the discussions is to improve surgery skills or to address problematic areas encountered during surgery.

Tips on Technique and Case Presentations.

- 1 .The “hypospadias cripple” patient - what are the options?
2. Investigation of non- palpable testes.
3. The management of recurrent urethral fistula after hypospadias repair
4. What to do with the nubbin? The role of scrotal exploration and laparoscopy. When to operate on undescended testes?
5. Ureteric reimplantation

Appendix 1 – cont'd

10:30 Tea/coffee break/ Exhibits (Foyer Faculty of Health Sciences)

Chair: Freddie Claassen and Schalk Wentzel

11:00 Theatre cases: Depend if children are available for surgery

1. A child with large ureterocele in duplex system
2. Child with non-palpable testes: First stage Fowler-Stephens procedure (laparoscopic).

Tips on Technique and Case Presentations.:

Approach to unilateral or bilateral hydronephrosis

A Child with non palpable testes: First stage Fowler-Stephens. Laparoscopy.
COVIDIAN “Laparoscopy in children”

13:00 Lunch/ exhibits COVIDIAN

Foyer Faculty of Health Sciences

14:00 Theatre case: A child with bladder agenesis for urinary diversion

Chair: Freddie Claassen and John Lazarus

COVIDIAN “THE USE OF STAPLES IN BOWEL RESECTION IN CHILDREN”

Tips on Technique and Case Presentations.:

1. Approach and workup in children for urinary diversions: What are the options?
2. The surgical technique of the Mitrofanoff valve. Is this a good option in children?

Appendix 1 – cont'd

Tuesday 09 August 2011 (National Women's Day)
Symposium: Controversies and New Developments in Pediatric Urology
Bains Game Lodge

07:40 Lecture: Prof Schalk Wentzel : What is new in the treatment of enuresis?

Chair : Freddie Claassen **State-of-the-art lectures:**

08:00 The surgical management of a child with Bladder exstrophy **Prof Paddy Dewan**

08:20 Radiological evaluation of pelvi-ureteric junction obstruction **Dr Padma Rao**

08:40 What is new in the surgical approach of undescended testes and can hormonal therapy be considered? **Dr John Lazarus**

09:00 Wilms tumour: The advantages and disadvantages of different treatment protocols.

Prof David Stones

09:40 EARTH Medical lecture: Endoscopic treatment of vesico-ureteric reflux.

Dr Isak van Heerden

10:00 Adcock Ingram lecture. Combination drug therapy for pain relief.

Prof Jaques Snyman

10:30 Tea Coffee and Exhibits

11:00 Ferring lecture: The "Need" for EMG biofeedback in bladder and bowel dysfunction in children for optimal pelvic floor rehabilitation.

Mrs Lizelle Grindell

11:20 The role and options for temporary urinary diversion in the pediatric patient.

Prof Chris Heyns

11:40 Aspen lecture: The role of urodynamic studies in patients with spinabifida. Are routine urodynamic follow-up studies necessary?

Dr Wicus Vermeulen

Appendix 1 – cont'd

Topical discussions

Chair: Freddie Claassen

12:00 Introduction of Faculty : Prof Paddy Dewan, Dr Padma Roa Prof Schalk Wentzel, Prof Chris Heyns, Dr J Lazarus, Dr I van Heerden, Dr V Vermeulen

12:05 Vesico-ureteric reflux: Which questions need to be answered? Is antibiotic prophylaxis always indicated? What is the cause of renal scarring? Why does VUR resolve spontaneously over time?
Dr Nico van Greunen

12:12 Vesico-ureteric reflux (treatment): Open surgery - when to treat and which treatment option? When and how to taper the ureter before reimplantation?
Dr Collen Martheze

12:19 Vesico-ureteric reflux in neurogenic bladder. Is it necessary to treat the vesico-ureteric reflux in neurogenic bladder patients undergoing bladder augmentation?
Dr Aubrey Coetzer

12:26 Pelvi-ureteric junction obstruction: When to repair and is there a difference between early or late repair?
Dr Godfrey Mothlomi

12:33 Pelvi-ureteric junction obstruction: “Surgical technique” Dismembered pyeloplasty: Stent or no stent? Nephrostomy tube: yes or no? When to do reduction of renal pelvis during dismembered pyeloplasty?
Dr Chris van der Walt

12:40 Posterior urethral valves: Risk factors associated with renal failure in posterior urethral valve patients.
Dr Shaun Smit

12:47 Posterior urethral valves: Primary valve ablation vs. vesicostomy? When to close vesicostomy and follow-up.
Dr Jo Van der Merwe

12:54 Posterior urethral valves: Is there a place for supra-vesical urinary bypass in children with posterior urethral valves?
Dr Nico van Greunen

Questions to Faculty

Chair: Freddie Claassen

14:10 Laparoscopy in Paediatric Urology **Dr Karl Heinz Jehle**

14:20 - Female Epispadias - novel surgical technique. **Dr Dries van den Heever**

Appendix 1 – cont'd

14:30 Ureterocele: When to treat and what is the optimal treatment?

Dr Hugo van der

Merwe**14:37 Non-functioning kidney:** Management of a unilateral non-functioning kidney in neonates and children

Dr Nico van Greunen

14:42 Pediatric Uroradiology: Ultrasound: Signs + diagnosis in the neonate. **Dr Padma Rao**

15:05 Antenatal hydronephrosis: When is the optimal time to evaluate and treat the neonate with antenatal detected hydronephrosis?

Prof Paddy Dewan

15:25 Questions to Faculty

15:45 Closing remarks

Freddie Claassen

**Optional surgery at Universitas Hospital Main Theatre.
Wednesday 9 August 2011
Live Surgery**

08:00 – 13h00 A child with failed bladder exstrophy repair

13:00 Lunch

15:00 Discussions: Pediatric Urology Case discussions (Problem cases)

X-ray discussion

**Optional surgery at Universitas Hospital Main Theatre.
Thursday 10 August 2011
Live surgery**

08:00 – 13:00 Surgery: Child with bladder exstrophy. Bladder neck reconstruction and ureteric neo-cystostomy.

Friday 11th August 2011

08:00 – 13:00 Radiology Symposium: