

*Paediatric Urology and Anorectal Anomaly
Collaboration*

Jordan

27th February – 4th March 2016



Professor Paddy Dewan



A project funded by Kind Cuts for Kids, and supported by the Jordan University Hospital and the Jordan Paediatric Surgery Society

Introduction

Outreach to countries in need of service and training pertaining to Paediatric Surgery and Urology comes about through a number of mechanisms. In the case of the visit to Jordan, the initial contact was via the family of a boy with an adverse outcome from surgery in a neighbouring country.

The boy had had an imperforate anus at birth, with the added complexity of having two urethras, rather than one. Unfortunately, at the time of his initial surgery, his main urethra was divided; leading to damage that now precludes the blockage being overcome. Fortunately, his inclusion in the list of patients seen in Jordan has resulted in the identification of remediable persistent mal-position of the muscle around the lower end of his bowel, which if repaired will result in him being more likely to be continent of faeces.

The contact from the family was only the start of the process that led to the final outcome of a successful visit to Amman. Professor Omari, head of Paediatric Surgery, was instrumental in arranging two lectures, one to the University Hospital surgical trainees, the other to the Jordanian Paediatric Surgical Association. The former was attended by more than 50 junior staff and surgeons, the latter by 25 Paediatric surgeons who partook in a two hour discussion that covered urine infections, vesicoureteric reflux, the use of plastics in medicine, prenatal diagnosis of renal tract anomalies, including pelviureteric junction obstruction.

Paediatric Urology is reasonably well developed in Jordan, with trainees having had the opportunity to enhance their skills through time in Australia in both Urology and Paediatric Surgery. However, there are ongoing advances in the specialty, and many more to be made, such that visiting subspecialty experts can value-add, particularly as most Jordanian surgeons are involved in a wide range of clinical material that precludes them being able to keep up with all the literature they might appropriately keep abreast of.



During this, the first visit of Kind Cuts for Kids to Jordan, the clinical work was conducted in the University Hospital, but a number of complex cases from other institutions, particularly the Military Hospital were the subject of discussions with those at the above pictured dinner, and those who participated in the workshop at the University Hospital.



Jordan University Hospital

The University Hospital hosted the visit funded by Kind Cuts for Kids, which involved a lecture to the surgical staff and participation in the weekly morbidity and mortality meeting, participation in the Paediatric Surgery Clinic and operating on 11 children.

Paediatric Surgery is a well developed specialty within the hospital, with a support from general surgical trainees, with Urology cases being operated on by both Urologists and the Paediatric Surgical team. Throughout the country there are roughly 30 Paediatric surgeons most of whom work in Amman, and most do Paediatric Urology as part of their practice.

Clinical Work

In total 21 children were reviewed and 11 underwent surgery, including patients from both the Jordan University Hospital and the Military Hospital. All operated cases included one of the two senior University Hospital Paediatric surgeons as part of the team. In all 28 operations were performed.

Consultations

Gender	DOB	Pathology
Male	1/1/2011	Traumatic urethral rupture
Male	12/1/2000	Bladder exstrophy/epispadias
Male	27/4/2015	Bladder exstrophy
Male	17/8/2006	POMU - rectal fistula
Male	17/2/2012	Ectopic Ureters
Male	16/1/2015	COPUM - good kidneys
Male	20/11/2011	Single kidney
Male	15/2/2012	Anorectal anomaly; urethral duplication
Male	1/1/2016	Anorectal anomaly; single kidney VUR
Male	1/10/2006	Epispadias - incontinence
Male	22/11/2012	COPUM - single hydro
Female	20/9/2006	Cloacal anomaly
Male	1/1/2009	Traumatic urethral rupture
Male	4/7/2012	COPUM - No R function
female	15/5/2002	Sacral agenesis
Male	17/8/2004	Bladder exstrophy/epispadias
Female	24/9/2015	PUJ obstruction
Male	1/1/2016	Vesicoureteric junction obstruction
Female	24/10/2002	Cloacal exstrophy
Male	1/1/2016	Bilateral inguinal hernia
Male	1/1/2014	Hypospadias

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Operative surgery

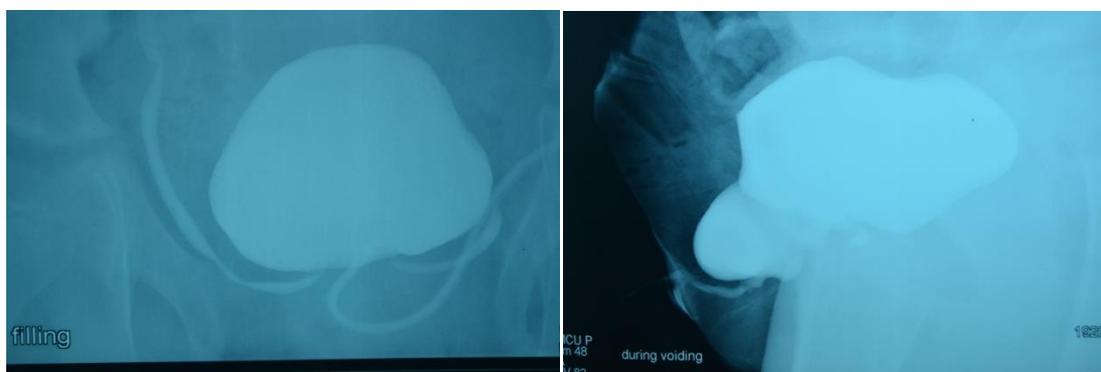
Of the 11 patients operated on, many had investigation as part of the procedure, and others had redo surgery for complex urology or anorectal anomalies. Noted lessons during the procedures included understanding of the reinterpretation of the anatomy of posterior urethral obstruction, catheterless ureteric reimplantation, urothelial lined bladder augmentation, resection of fistulous connection from the rectum to the urethra via a posterior approach, the use of caudal anaesthesia in urogenital surgery, anterior osteotomy for pelvic closure in bladder exstrophy, and perineal body reconstruction in redo anorectal anomaly surgery. Students of these lessons included, Paediatric surgeons, anaesthetist, surgical trainees and their interns, Urologists and a Paediatric orthopaedic surgeon.

Gender	DOB	Operation
Male	27/4/2015	Bladder exstrophy redo
Male	22/11/2012	COPUM fulguration
Male	4/7/2012	COPUM fulguration
Male	12/1/2000	Cystoscopy
Male	17/2/2012	Cystoscopy
Male	15/2/2012	Cystoscopy
Male	22/11/2012	Cystoscopy
Male	4/7/2012	Cystoscopy
female	15/5/2002	Cystoscopy
Male	17/8/2004	Cystoscopy
Male	4/7/2012	Endoscopy via bladder
Male	17/2/2012	Endoscopy via Mitrofanoff
Female	24/10/2002	EUA abdomen
Male	15/2/2012	EUA Anus
Female	24/10/2002	Insertion of DJ stent
Male	27/4/2015	Omphalooplasty
Male	27/4/2015	Osteotomy - anterior left
Male	27/4/2015	Osteotomy - anterior right
Male	17/8/2006	Pena Anterior - fistula division
Male	15/2/2012	Perineal body reconstruction
Male	17/2/2012	urethral dilatation
Male	27/4/2015	Urethroplasty – partial
Male	15/2/2012	Urethroscopy
Male	12/1/2000	Urodynamics
female	15/5/2002	Urodynamics
Male	17/8/2004	Urodynamics
Male	27/4/2015	Wound revision
Male	1/10/2006	Young Dees bladder neck reconstruction

Clinical Cases

Cases 1+2

Two of the boys reviewed had been born with bladder exstrophy; the 12 and 16 year old boys were incontinent of urine, but neither wants to have the alternative of bladder catheterization that is probably necessary for bladder control. In both cases they were further investigated under anaesthetic that identified a large out-pouching from of the urethra, the closure of which would significantly improve their ability to hold urine. The first xray, below, shows a catheter into the bladder and reflux into each urethra; the second shows a second cavity below the bladder, the urethral diverticulum.



Cases 3+ 4

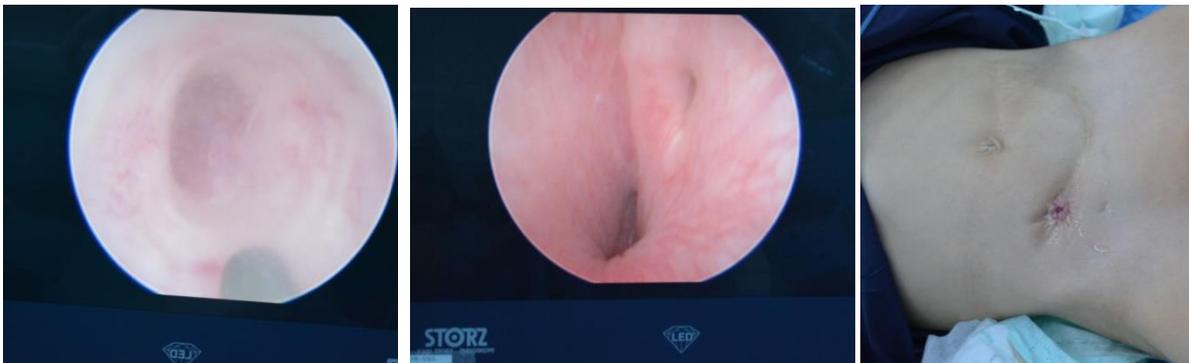
A six and eight year old boy had been involved in separate road traffic accidents that had resulted in both the fracture of their pelvises and rupture of their urethra, producing the situation shown in the x-ray. Both boys had lived with a catheter into their bladder for many months, as there is no connection of the urethra, having been completely occluded by the accident.



Case 5

YB, the four year old boy mentioned in the introduction, presented at birth with an imperforate anus and the finding of two urethras for which he had a colostomy and an attempt at repair. Unfortunately, the repair, in a neighbouring country, had irreversibly damaged the urethra. The first of the endoscopic images is the point at which the urethra is seen to be blocked from below, the second is the inside of the bladder with the rudimentary connection to the bladder to the right which is the lesser of the two urethras; the main urethra having been completely occluded from the bladder neck to the level of the first image, which is at the base of the penis.

Sadly, the urethra could not be repaired, but fortunately, he was able to achieve an advantage from the Kind Cuts for Kids international experience for his faecal continence. The option of further surgery for his anorectal anomaly was evident from the examination and history, leading to a procedure that repositioned the muscle around the rectum and anus, in a procedure that was minimal and involved operating through the perineum, without the need for a covering colostomy.



Case 6

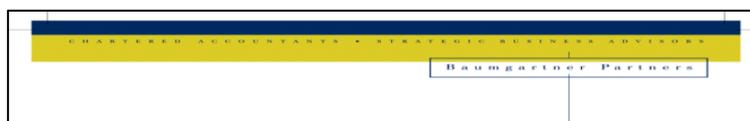
Many of KCFK's reports have included cases of redo bladder exstrophy; children who have been born with the inside of the bladder visible on the outside – first picture. Both Paediatric surgical and orthopaedic staff were involved in the application of an option that has been highly successful in many children around the world. The second image is just prior to the completion of the closure.



Sponsors and Supporters

Lawson Delaney and Johnson Recruitment, our Gold Sponsors, ODC Design, Edge Commercial Interiors, South Western Drilling and Baumgartner Partners, our Silver Sponsors, plus our Platinum Members are the principal contributors to the financing of the Jordanian project. Important and significant further contribution has been made by fundraising activity within the Albanian community in Melbourne, and the Manningham and Preston Rotary Clubs in Victoria. Warner & Webster also assisted by providing discounts for surgical equipment taken as part of the mission.

All the nursing staff in the operating theatres and wards, the Jordanian University anaesthetic team and the surgical team contributed well beyond the call of duty, not only in the care of the children and a dedication to learning from the clinical interchange, but by the warm welcome and hospitality shown to the visiting team.



As always, we thank the families who give us the honour of assisting their children.