



# **KIND CUTS FOR KIDS**

## **Radiology Report**

**Sarajevo, Bosnia 2013**



**Dr. Padma Rao**

## September 8<sup>th</sup> to 14<sup>th</sup> 2013

The second Kind Cuts for Kids mission to the University Hospital in Sarajevo took place between the 8<sup>th</sup> and the 14<sup>th</sup> September 2013. This was again an extremely successful visit further consolidating the relationship with the paediatric radiology team, doctors Amra Dzanaovic and Irmina Sefic-Pasic.



*Left to right: Dr. Amra Dzanaovic, Dr. Padma Rao, Dr. Irmina Sefic-Pasic*

The Radiology component of the Kind Cuts trip was divided between time spent in the Radiology department and time spent with the clinicians discussing the patients at the pre-operatives clinics, the morning case and ward rounds.

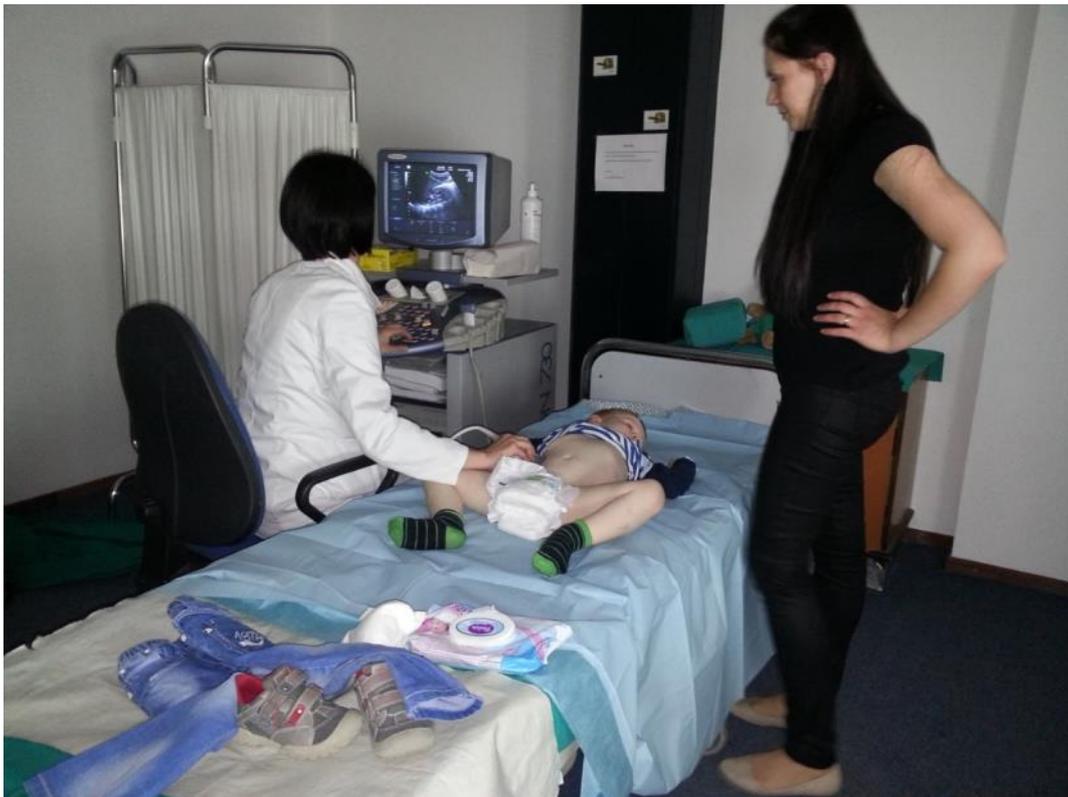
The first day was largely spent reviewing the patients on the ward who had been admitted for operation, along with outpatients attending for either primary review or follow up review after surgery last year. Detail of all patient contact episodes throughout the visit is given in Appendix 1.

Each morning a case conference was held to discuss the patients to be operated upon that day and to obtain follow up on the post operative patients from the night duty doctor and nursing team. Those present usually included the paediatric surgeons, nursing staff and radiologists and often the anaesthetists and nephrologists would be in attendance.

Any radiological investigations already performed were reviewed and discussed and discussions also took place about proposed radiological studies to be performed.

The majority of the children who had been operated upon during the Kind Cuts trip in 2012 were brought back for review. Some of these underwent follow up investigations.

In the photograph below, a follow up ultrasound study of the kidneys and bladder of a young boy was performed in the Radiology department with the radiologist, Dr Irmina Sefic-Pasic. The study demonstrated that the appearances of the kidneys had continued to improve compared with the pre-operative study. The patient was extremely well. There was good discussion with the radiologists as to the measurements that can be taken in a patient with dilated kidneys to try and quantify the degree of dilatation, introducing them to new concepts.



*Dr. Irmina performing an ultrasound examination of the urinary tract as follow up of a patient operated upon in 2012.*

A major change that has taken place since the Kind Cuts visit to the hospital in 2012 is that the paediatric radiologists now have access to the angiography suite in which to perform fluoroscopic procedures, in particular, cystograms, a study whereby liquid contrast material is instilled into the bladder. Previously, there was little provision and ability to perform these procedures on the fluoroscopic equipment shared with the adults in the main department of Radiology. The support team in the angiography suite consisted of a nurse and a radiographer who were very helpful and also aware of radiation protections measures such as coning. However, advice was given as to the length of time the radiation beam should be applied, suggested that fluoroscopy should be performed with intermittent short pulses rather than continuously to reduce radiation exposure to the child.



*Paediatric radiologists, nurse and radiographer during a fluoroscopic procedure on a teenage patient in the angiography suite.*

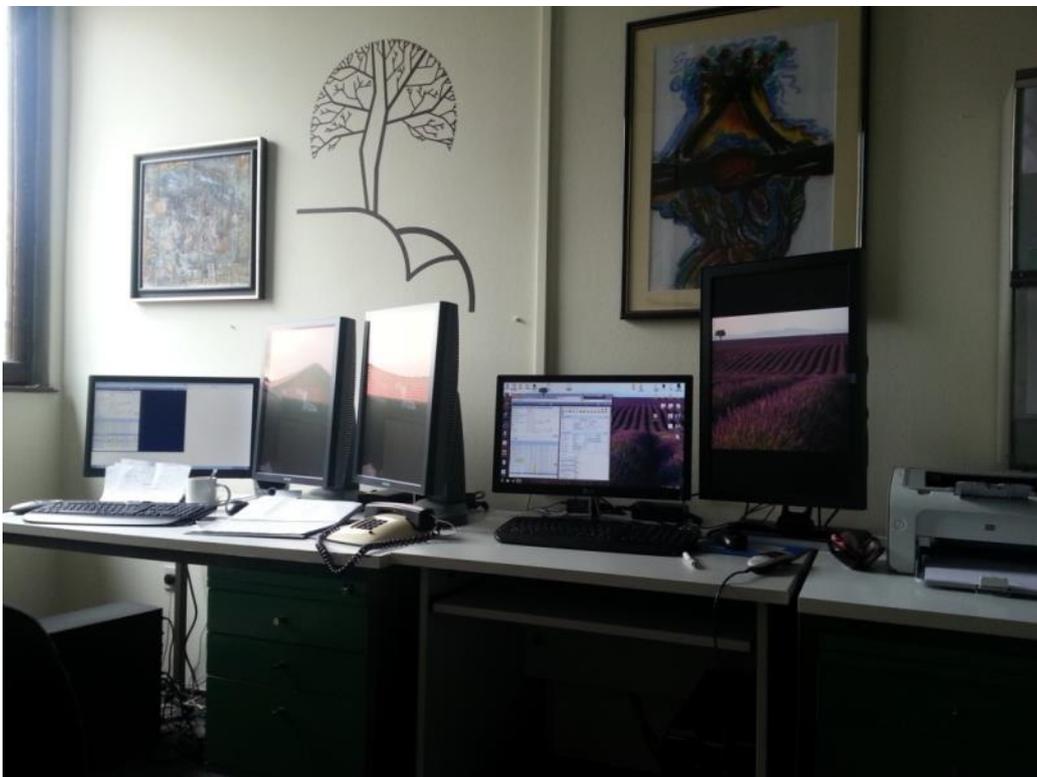
In addition to the children who were reviewed as part of the Kind Cuts visit, I collaborated with the local radiologists on a number of other patients and together we reviewed several interesting cases. One of the most interesting patients was a neonate born during the Kind Cuts visit with anal atresia, (“no bottom”), and who was persistently passing urine. He also had limb deformities with truncated fingers, initially thought to be due to amniotic bands, and was intermittently turning blue due to central cyanosis. Ultrasound studies of the abdomen and kidneys, head and spine were performed, which demonstrated an abnormal looking spinal cord, with features suggestive of a neurological abnormality called caudal regression syndrome in association with a syndrome with abnormalities affecting many body systems called VACTERL. The paediatric radiologists do not report the paediatric neuroradiology studies, which are separately reported by the neuroradiologists. Neither the paediatric radiologists nor the neuroradiologists perform cranial ultrasounds, which are performed by the clinical teams. However, I was able to perform both the cranial and spinal ultrasounds myself to demonstrate the anatomy and abnormalities to the radiologists.

Paediatric interventional procedures are performed by the interventional radiologists, who also perform adult procedures, and there is currently no dedicated paediatric interventional radiologist. This is potentially a service that could be further developed as there are a few procedures whereby the expertise is currently lacking, with children having to be transferred to other countries in order to get the investigation performed. Such a procedure is paediatric bronchography. During our visit there was a young child whose history suggested abnormal collapse of the major airways due to weak cartilage in the walls, a condition known as

bronchomalacia, and with such a child in Melbourne, a procedure called a bronchogram could be performed under general anaesthetic. Discussions with the interventional radiologists revealed that they did not have the knowledge or practical experience to perform bronchography but they did have the desire to be able to offer this service to their clinicians and patients. In order to help set up this service, I liaised with my colleague who performs interventional paediatric radiology procedures at the Royal Children's Hospital in Melbourne to obtain the protocol and guidelines for the procedure currently used in Melbourne.

The need for the paediatric radiologists to widen their knowledge and experience has been recognised by the department and the hospital, and, as such, Dr. Irmina will be undertaking a three month observership at a department of Paediatric Radiology in a children's hospital in Spain. Kind Cuts for Kids could help support the further training of the Radiologists by funding them to attend and present at national and international paediatric radiology conferences.

Since the last visit in 2012, the Radiology PACS has been fully installed and is in full use. This has improved the collaboration between the radiologists and the clinicians as the clinicians also have PACS access around the hospital. Patients can be more easily discussed and the PACS has provided improved opportunities for clinical meetings.



*Radiologists' office with PACS reporting stations*

## **Lecture Symposium**

The lecture symposium took place on the afternoon of the last day of the workshop, Friday 13<sup>th</sup> September 2013. The audience mainly consisted of radiologists, nephrologists, nurses, surgeons and paediatric surgeons and medical students.

The following paediatric radiology lectures were given:

1. Low Gut Obstruction in the Neonate
2. Imaging of Anorectal Malformations
3. The Do's and Don'ts of MCUG

The following paediatric surgical/urological lectures were given:

1. Urological Rarities
2. Tricks of the Trade

The lectures were all extremely well received generating a lot of discussion between the various specialties.

## **SUMMARY**

The second Kind Cuts for Kids visit to the University Hospital in Bosnia has again been immensely successful in terms of the success of the operations performed on the children and also in the further collaboration and relationship development with the various doctors and nursing staff.

## Appendix 1: List of patient contacts

Monday 9<sup>th</sup> September 2013

DOB	M/ F	DIAGNOSIS	IX	MX
30/01/13	F	Bladder exstrophy	Renal US: NAD	Osteotomy & closure
03/12/07	F	Epispadias	MCU: smooth bladder Wide open neck IVP: Wide sym pub, NAD	Urethroplasty ?bladder neck reconstruction
31/01/07	M	Cutaneous fistula	Contrast study via stoma, fistula and appendicostomy	
20/05/10	M	Hypospadias		2 <sup>nd</sup> stage Ulanbataar
22/06/06	M	Bladder exstrophy, calculus		
15/03/08	M	Hx of teratoma, soiling ++	Ba enema: large rectum, Sacrum intact	EUA, renal US
	M	Rectal stricture-megarectum post op. Soiling.	? sacral deficiency Patulous anus	
01/02/03	F	Poor perineal body. Post op correction of anorectal angle; posterior plication		For reduction in calibre of rectum
21/06/13	M	Bilateral hydroureteronephrosis and ureterosepsis, ? bilat VUJO	MCU: no VUR, no lat urethra, poor distension MRI: high grade bilat hydro, blad good volume, no trabecs	Post unilateral nephrostomy. For bilateral ureteric reimplants
13/06/13	M	Bilat hydrouretronephrosis and urosepsis, ? bilat VUJO	Post bilateral nephrostomies MCU: large smooth bladder and ? lt PUJO	Too sick to operate at present
29/03/11	M	VUR, previous Cohen reimplant	Renal US: bilateral mod hydro, and scarring	Follow up renal US every 6 months
29/09/01	M	VUR, VUO, anorectal malf and megarectum, anorectoplasty, ureterosigmoidostomy, Urolithiasis	?defic sacrum, good squeeze, large rectum,	EUA, DTPA, cystoscopy and urodynamics, (Ba enema and contrast study cancelled)
24/01/95	M	Anorectal anomaly, Penoscrotal hypospadias, lt hydro, ? dermoid cyst or calculus in urethra		For urethrocystoscopy
11/02/12	M	Rectal prolapse		

## Tuesday 10<sup>th</sup> September 2013

28/09/01	M	ARM, anorectoplasty, ureterosigmoidostomy	Ba enema and contrast study cancelled	For cystoscopy and urodynamics
31/01/07	M	Cutaneous fistula		EUA & cystoscopy
09/03/94	F	Meningomyelocele, neurogenic bladder, ileal conduit	US renal tract, MRU, cystpgraphy with volumes and pressures	Patient not keen on surgery; happy to maintain stoma
28/03/11	M	Previous Cohen reimplant	US: bilateral hydro similar to 2012	For NM DTPA
	F	Pancreatic trauma 2012, post debridement	Review	Extremely well, no ongoing problems

## Wednesday 11<sup>th</sup> September 2013

	M	Post megarectum excision 2012		Extremely well and fit. Feels like a new person
01/02/03	F	Post plication of rectum		Well
	M	Bilateral stone disease		
22/08/13	M	Gastroschisis post closure		
21/06/13	M	Bilateral hydroureteronephrosis. Septic		For bilateral ureteric reimplants
20/05/10	M	Hypospadias. 2 <sup>nd</sup> stage Ulanbataar		
03/12/07	F	Epispadias		
	M			
09/02/06	M	Blunt pancreatic injury		CT reviewed. Nil significant
09/03/94	F	Post op myelomeningocele, neurogenic bladder, cystostomy onto anterior abdominal wall	Cystogram confirms cystostomy, bilateral VUR and left renal calculus	Happy to continue with stoma. For lithotripsy of calculus
20/07/13	M	Bilious vomiting	Upper GI contrast study	No malrotation
	M	COPUM. Post incomplete ablation	Repeat MCU confirms persistent COPUM	For re-ablation with Prof Dewan
07/09/13	M	Myelomeningocele, hydrocephalus	US abdomen and kidneys	
29/10/10	M	Apert syndrome	CT face review	
05/10/02	M	Tracheal stricture post long term tracheostomy	CT neck and chest review	
	F	Previous pancreatic trauma post debridement	MRI abdomen review	Well. No residual abnormality
09/04/02	F	Old teratoma. Post op	MRI polycystic left ovary	
06/01/13	M	Post op VUO stenosis	US: residual mild hydronephrosis	
09/03/94	F	Post op myelomeningocele, neurogenic bladder	MRU evaluated	For lithotripsy

**Thursday 12<sup>th</sup> September 2013**

13/04/12	M	Post op anal atresia with fistula	Good anua. Faecal lump	For barium enema to delineate anatomy
15/06/10	F	Anal atresia with fistula	Well	Nil new
11/09/13	M	New anal atresia, urinary incontinence, limb deformities	US cranium, spine, renal tract. High blunt ending conus. ? caudal regression with VACTERL	For MRI
	F	Anal atresia with fistula	Well	Nil new