Mauritius

Paediatric Service Training
for
Urology/Surgery, Radiology, Nursing and Anaesthesia

8th – 19th November 2005

Professor Paddy Dewan, Dr Ken Brownhill and Rn Caron Oakley

A project of the Mauritius Department of Health and Quality of Life,
The Society for Children Inoperable in Mauritius,
And the Kind Cuts for Kids Foundation

Overview

There have now been six visits to assist with the backlog of Paediatric Surgical cases and to start the process of skill transfer to the Mauritian Medical and Nursing staff. There have now been over 155 surgical patients and at least 250 operations. However, there is still much work needed to ensure ongoing improved quality of care for these children, and for those with similar conditions in the future; a need that is highlighted by a patient with an imperforate anus presenting for her definitive repair at the age of 20 years.

A healthy future for children rests with the development of a strategic plan that focuses on the need to provide a country-wide service, which is interrelated with subspecialty services such as renal transplant, cardiac surgery and neonatal intensive care services, and incorporates training of appropriate staff, who are supported by a quality assurance system. Two units should be identified for the establishment of Paediatric Surgical services, the surgical community should work with a learned College to develop training and accreditation model, while establishing a Mauritian College to act as the guardian of medical and surgical standards.

Specific to the near future, Dr Nazeer Hosany has been appointed to a Paediatric Surgical Fellowship in 2006. If Nazeer were to sit a diploma exam through the Mauritian University, with the cooperation of the Royal Australian College of Surgeons, this would provide certification that would allow him to establish the first Paediatric Surgical unit. A further candidate should be identified, even if that person is relatively junior. As always, in a community with limited resources, the services to children should be maintained by a number of other surgeons who provide support for the less complex cases. The standard for which is set by the subspecialty group.

The November 2005 visit reviewed of 110 patients, 43 of whom had 59 operations, during 96 hours of operating; contributing to nurse training, in addition to the Anaesthetist and Paediatric Surgical training. Such a work load could not have been achieved without the cooperation of many people at Jeetoo Hospital in Port Louis, or without the support of the Hospital administration and the Ministry of Health and Quality of Life. We also owe a debt of gratitude to the Surgeons and Paediatricians for referring the cases, but even more-so we are indebted to the children and their parents for having shown trust in us.

Consultations

On the first day a clinic was conducted, during which the majority of cases were seen, many of whom had a radiological investigation and a later review. Other children were seen between operative cases, with a total of 110 patients being seen in total. Importantly, a large number of new cases were seen, as well as patients who required further surgery and review of the outcome of complex anomalies and surgery.

The initial clinic was notable for the large number of patients who all seemed very tolerant of the long wait for the visit, and during the clinic itself. Also notable was the excellent organization of the clinic. Many junior staff, nurse and medical record staff assisted in ensuring the patients were seen efficiently. Investigations were organized in a timely fashion and appropriate patients were admitted for surgery.

The major clinic had the involvement of the Jeetoo senior and junior surgical staff and the participation of members of SACIM. Also, Dr Brownhill was able to assess the patients' fitness for surgery, following the decision to operate, and Caron Oakley assisted in recording the necessary follow-up of the patients.

The cases seen in the clinics and in the ward included 24 children with an anorectal anomaly, 20 hypospadias boys, 8 with Hirschsprung's, 2 with bladder exstrophy, 13 with urethral obstruction (COPUM), Colon atresia associated with Down syndrome, diaphragmatic eventration, 3 renal stone disease patients, 6 with a neuropathic bladder, 6 with obstruction at the junction between the pelvis and ureter of one or both kidneys, a sacrococcxygeal teratoma, and a facial teratoma.

The heart is seen moved to the right, and the left diaphragm elevated, due to a congenital defect that caused the boy to have shortness of breath with eating and running. The early result is shown in the middle Xray, and the excellent final result is shown on the right.

Surgical Cases

A total of ***59 operations*** were performed on ***43 patients:*** the major work load came from:

Hypospadias repair	9 cases
Pena type procedure	3 cases
Swenson procedure	4 cases
Urodynamics	3 cases
Cystoscopy +/- fulguration	7 operations

Other cases included one anal dilatation, colectomy, colostomy closure, lithotomy, inguinal herniotomy, diaphragm repair, orchidopexy for undescended testes, perineal tear repair, nephrostomy insertion, bladder augmentation with ureter, vesicostomy, and one girl who hade the excision of vitello-intestinal duct remnant.

Of the patients who had surgery, or were reviewed in the clinic, 22 patients will require some form of follow-up surgery.

A small, but important number of complications occurred, including post operative anaemia in two patients, post operative fever in four, a minor wound haematoma and two boys required insertion of a urethral catheter following surgery for the penile abnormality of hypospadias. Some of the cases are described in detail.

The benefits of training for surgery in congenital anorectal anomalies allowed this woman to have surgery that restored faecal continence that had resulted from the birth of her youngest daughter: who is six years old.

Anorectal anomalies:

An imperforate anus is one of the common abnormalities that have been treated during the surgical visits to Mauritius. However, there is still much to do to educate the community about the role of the Paediatric Surgeon, and to inform them that the service is available. A case in point is the young lady to the left, who was 20 years old when she had her definitive repair during the recent visit. She had lived with a colostomy all her life. The successful operation will see her free of the abdominal stoma, through which she passes faeces, in the near future.

In contrast, the little girl shown below has been able to have a single operation at an early age.

Hirschsprung's Disease:

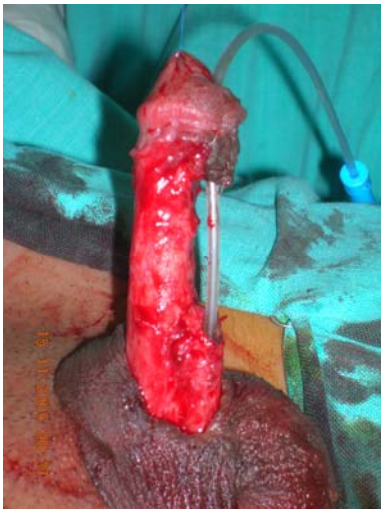
This young boy had struggled with passing faeces all his life. Because of the lack of knowledge about Paediatric Surgical conditions, it had not been recognized that he had a story consistent with the diagnosis of Hirschsprung's disease (a condition in which the nerve supply to the lower end of the bowel is deficient).

On a bright note, the long months of suffering were rewarded by the child having a single stage operation, rather than having a colostomy.

The Xray shows the narrow part of the lower bowel, the operative picture indicates the wide part of the bowel above the narrowing which was trimmed and sutured to the anus. The incision used was similar to that used for the girl pictured in the lower left image.

Hypospadias:

Hypospadias is a condition in which the penis is malformed, with a resultant bend in the penis, associated with the urine stream exiting nearer the base of the penis. The condition is common, but the surgery often complex. The little baby (above) shows an extreme degree of the abnormality and the surgical outcome. The older boy, pictured below, had complications from previous surgery by an inexperienced hypospadias surgeon. He required a major operation, including the need for a graft from the lining of his bladder, to repair the residual defect. The Paediatric Surgical training program aims at reduce complications, as seen for this adolescent's initial surgery. The penile bend was corrected (left lower), producing a 6cm gap in the urethra. The final result was very satisfactory (right lower).



Obstructed kidney babies:

The three babies who had a pelviureteric junction obstruction are shown above. Both those with a good contralateral kidney (as shown in the radiograph) were able to be discharged the following day. The third (top right) had a critical situation, necessitating the insertion of a nephrostomy tube into the left kidney on the first day of the visit. The hugely distended kidney was in a child who had no kidney on the contralateral side. Following a period of metabolic stabilization the child had the definitive procedure to repair the kidney obstruction, and the child was discharged within a week.

Future Direction

1. Future visits involved a symposium component.
2. Teaching the teachers remains the focus.
3. Two Paediatric Surgical centres should be established, one associated with the cardiac surgical centre and the other attached to the neonatal unit.
4. Dr Nazeer Hosany is appointed to a position in Australia in 2006.
5. In 2006, Dr Hosany should return for the Mauritian Paediatric Surgical visits.
6. Cases to be considered for transfer out of Mauritius should be vetted by those closely involved with the Paediatric Surgical visits.
7. Outcomes for all surgical cases involving children should be monitored through a National audit.

As previously stated, it is important to ensure that the Health Department recognizes that the subspecialty Paediatric Surgery is now available in Mauritius. The SACIM group should continue to be recognized for their contribution to the development of the specialty, through having made the link in the first instance, and it would be essential that they remain closely involved with further developments, as they were during this visit.

The smiles on the faces of the parents waiting to see the Paediatric Surgical team tell the story!