

Paediatric Surgery in PNG

Overview

The year 2001 sees Paediatric Surgery in PNG enter a new phase. Following the appointment of a Visiting Professor in Paediatric Surgery, in the University of PNG in 2000, Dr Mclee Mathew will be returning to PNG as the first trained Paediatric Surgeon, in 2001. Also, he will be leading a visiting team to PNG in April, prior to his official definitive return in July; his examination in the Diploma in Paediatric Surgery is planned for later this year. The project of skill transfer has involved several hundred consultations and over 600 operations.

Furthermore, plans are now in hand for Dr Okti Poki to continue to be involved in the visiting program and to collaborate with Mclee Mathew when he returns to PNG. The completion of training for Dr Poki is aimed to establish consultant positions for the Paediatric Surgical graduates in both Lae and Port Moresby. Subsequently, it is envisaged that external visits will continue at an increased level for two years, tailing off over a further five years. By that stage there should be four Paediatric-interest Surgeons in the country, with the need for visitors becoming similar to that seen in most countries where services are supplemented by visiting experts. Indeed, PNG could be expected to become a regional centre of excellence for the care of anorectal anomalies, Hirschsprung's disease and other conditions more commonly seen in developing countries. The PNG University Department of Surgery may well be in a position to provide training opportunities for overseas Paediatric Surgical candidates, on a fee-for-service basis.

It is also expected that, once the four Paediatric Surgical subspecialists are in

country, those surgeons will be able to provide contact and advice to peripheral PNG Surgeons and Paediatricians. In fact it would be appropriate for the country to provide outreach service, not only to regional PNG centres, but also to places such as the Solomon's.

The training program has been underway since 1993, and has involved three Australian Paediatric Surgeons, supported by the AUSAID funded IDP/MONAHIP or PIP management groups. Over the many visits, the program budget has been supplemented by a number of additional sources. The Huon Gulf Rotary Club and the Lae International Hotel provided the accommodation, equipment and meals in theatre, in Lae. Kendall-Sherwood-Davis and Geck, Bard and Ansell International have donated company products for a number of the 21 visits, and recycled items have been collected by the nursing and other staff in the theatres of several Victorian Hospitals, including The Royal Children's Hospital, Western Hospital Sunshine, Mercy Private Hospital, The Geelong Hospital and St John of God Hospital, Geelong: Qantas and Air Niugini have kindly transported these items free of charge. Also, a number of people have provided transportation in Lae. The Paediatric Surgical Foundation and the Lae Lionesses, have now taken on a significant role in helping to augment the efforts of the other funding agencies, resulting in the ability of the January team to include a theatre nurse, and for there to be two additional visits in 2001.

As for a number of previous visits, Dr Poki traveled from Mt Hagen to work in both Lae and Port Moresby, and was pivotal to the success of the training exercise. He not only helped set up contact for referral of the patients, but he coordinated the training and teaching program and participated in long days

and nights of lectures, tutorials, ward rounds and theatre sessions. Also, Dr Ringko Sitiang (Anaesthetic registrar) traveled to Lae with the team, providing support for Dr Jeffreys and the opportunity to expand his training in Paediatric Anaesthesia.

Surgical trainees and medical students in Port Moresby were involved to a greater extent than previously, to the advantage of both the trainees and the patients. Additionally, Dr Vincent Atua (Surgical Registrar), in Angau, was vital to the success of the Lae visit as were the Lae Anaesthetic Technical Officers who participated actively in the teaching and case management. Training of nursing staff and students in theatres and the ward, on aspects of Paediatric Surgery, was also achieved, particularly related to appropriate processes of intra-operative theatre work.

In addition to the teaching, clinic work and surgery, this visit involved participation in discussions about the development of Paediatric Urology and Paediatric Surgery, particularly planning for equipment requirements in theatre and the wards. The most notable new achievement was the skill transfer related to theatre inventory, through Meagan Predl working with the PNG theatre staff.

Also, development meetings were held with the Dean of the Faculty of Medicine and the recently established Paediatric Surgical Foundation, both of the meetings will be of assistance in ensuring a healthy future for Paediatric Surgery, including the patients treated by the visiting teams, and the subsequent PNG Paediatric Surgeons.

For the remainder of 2001 there are planned to be three further visits. The

next will be by Dr Mclee Mathew, travelling with Dr Chris Beem in April, the third will consist of Dr Albert Shun and an anaesthetic companion, with the third visit to be in October when the trip will consist of Professor Paddy Dewan, Dr Rick Horton and a theatre nurse. The final visit is to coincide with the Paediatric Surgical Diploma exam.

The project continues to flourish: Dr Andrew Jeffreys added further to the knowledge of Paediatric Anaesthesia, and on this occasion it was evident that the face of Paediatric Surgery is changing; the student and trainees have a greater level of core knowledge, the patients are no longer most likely to have complications of treatment or complex pathology, and basic techniques were more able to be available for the teaching of Paediatric Surgery.



A weary Dr Okti Poki takes a well-deserved rest in Lae, while Mclee Mathew continues his training in Melbourne.

Teaching

Surgical teaching involved sessions with Dr Poki (Paediatric Surgery) and Dr Sitaing during many hours, other than those in the hospital. Living and working with the subspecialty trainees facilitated ongoing discussions related to the conditions and patients treated. During this visit the patient contact included 60 consultations, 14 ward rounds, 101 hours of operating time on 37 cases, three lectures, and two formal outpatient clinics.

The teaching related to theatre nursing and inventory management has already been alluded to. Paediatric Surgical nursing was taught by involvement of the nurses in the ward rounds, taking special care to ensure the nursing staff were aware of the importance of their role in ensuring a favourable outcome for the patients. Nurse management, was particular focused on the care of patients having bowel and Urological Surgery. Anaesthetic training was conducted during most operative sessions, as trainees and ATO's were usually available for Dr Jeffreys to work with; safe anaesthesia within the limits of training and experience was the main theme.

Ward Rounds: Ward rounds were conducted on most mornings, as well as evenings, in both Port Moresby and Lae. The purpose of these visits was to give ongoing education in the perioperative management of patients operated on during the visit. A particular focus was on the management of the urinary catheters that had been used in those patients who had required post-operative urinary tract drainage after either a pyeloplasty or ureteric reimplantation. As for previous visits the teaching was aimed at the Paediatric Surgical

trainee, the resident staff and more so on this visit at the nursing staff.

Theatre Sessions/Operations: As for the previous Paediatric Surgical visits the service and teaching commitment was exemplified by the range of surgery and teaching in the operating theatre. The 44 operative patients, having 46 visits to theatre for 61 operations, during 101 hours of theatre time. Once again the teaching in theatre was mainly focused on the honing of the technical and diagnostic skills of Dr Poki. He has improved, benefiting from the minor cases that have been included on this occasion and the previous exposure to the more complicated material. Three other surgical staff took the opportunity to be closely involved in the operative surgery: Dr Charlie Turharus and Dr Peter Kaminie in Port Moresby and Dr Vincent Atua, in Lae. The students in Port Moresby were interested and enthusiastic to participate, including Rex Maukera, Lloyd Aotee and Haynes Rasin; the resident staff also assisted with the preparation of the patients for theatre. Anaesthetic resident, student and registrar staff were also tutored during the long hours of surgery.

Consultations

The table on page 8 (over) shows the consultations conducted in both Lae and Port Moresby. Most of the patients were seen in the ward in Lae, or between cases in the theatre corridors. In Port Moresby 24 cases were seen in an outpatient session on the first day, which included the participation of the Paediatric Surgical trainee, a registrar, a resident and two 4th year medical students.

Nineteen of 26 patients had a total of 29 operations in Lae, because of the

effective screening process in that centre and referrals from outlying centres. The effectiveness of the screening process was largely because of the efforts of Dr Okti Poki and Dr Vincent Atua (Surgical registrar in Lae). Sr Joseph also provided great support to the teaching program by her referrals from Wewak.

Of the 36 consultations in Port Moresby 25 came to surgery for 32 operations, but there were a greater number of post-operative follow-up cases in Port Moresby than in Lae, probably related to the Lae patients being more likely to be from remote areas. The non-operative cases provided a wide range of teaching material that would not have otherwise been covered, and facilitated review the outcome of previous intervention.

Operative Surgery

The cases listed on page 10 (over) were operated on during this visit; most had the involvement of Dr Poki. Dr Vincent Atua participated in the perioperative and intraoperative care of the patients in Lae and Dr Peter Kaminiel, Dr Charlie Tuharus, Dr Karl Samuel, provided assistance with the care of the children in Port Moresby. There were a total of 46 theatre visits of 44 patients for a total of 61 operations. Once again the majority of children seen for major surgery were pre and post-operative cases with an anorectal anomaly (6) or Hirschsprung's disease (5) and, during this visit, 16 cases had a Paediatric Urology procedure. Interestingly the profile of patients has changed to include more routine Paediatric Surgical conditions, such as herniae (8 patients) and undescended testes (3 patients), giving a greater opportunity for training of junior surgical staff and medical students.



Kevin required a 6 hour procedure, during his third operation, to effect a cure for his huge thigh lesion.



The cystic hygroma seen above in Rachael was obviously of great concern to the patient



Gloria had a large benign teratoma removed via an abdominal incision, the adherence to the pericardium and oesophagus resulted in defects in both intraoperatively, but never the-less she was able to be discharged on the 5th post operative day.

Outcome of Previous Paediatric Surgical Visit Recommendations

Surgical Technique: The skill of the Paediatric Surgical trainee has continued to improve, in particular the tissue handling, wound closure, colostomy formation, facilitated during this visit by more minor cases being available. Students and registrars participated to a greater degree than in previous visits, both in the surgery and anaesthetic teaching. The knowledge base for Paediatric Surgery has improved significantly.

Diagnosis and Management: In the common conditions of Hirschsprung's disease and anorectal anomalies, the site and nature of colostomy formation, and the appropriateness of the steps in the early management have resulted in improved outcomes for this group of patients.

Radiological Support: No change has occurred with regard to the under diagnosis of renal anomalies in children. Funding and a research fellow position should be made available to perform a prospective study of children with fever, in which a dipstick of the urine would lead to a portable ultrasound examination of the kidneys, and would provide an important insight into the profile of renal disease.

Further education in the subtleties has seen better at interpretation of the radiology involved in the investigation of Paediatric Surgical conditions than in previous years. Further training sessions for Surgical and Paediatric trainees and medical students have been implemented, but sessions with Radiographers, Radiologists would also be useful, and is likely to advance now that Port Moresby has a recently returned Australian trained Radiologist.

Theatre Equipment: Donations-in-kind and the Department of Health supplies have improved, in particular, Paediatric instruments have been supplied to Dr Mclee Mathew for his return to PNG. The donors have been the Lae Lionesses, through the Paediatric Surgery Foundation. Other equipment continues to be in short supply, but as seen from the development of better storage arrangements, there are also some excesses, due to the inability to track donated items. Hopefully the training by Meagan Predl will have been improved the system.

Paediatric Surgical Nursing: Nursing training in theatre, related to Paediatric Surgery has been addressed, further support to this and wrd training in Paediatric Nursing should be continue, both associated and separate from the Paedaitric Surgical visits.

Recommendations for Further Development

Paediatric Surgical Appointments: Dr Mclee Mathew, when he returns to PNG in July should be appointed to the Foundation supported position in Lae, from where he should provide Department of Health and Foundation supported outreach services to major centres, including the Solomon Islands. Dr Okti Poki should receive Australian training in Canberra in 2001, and return to Port Moresby. The two surgeons should aim to be the teachers of all those who need to be informed about Paediatric Surgical conditions, which would include the development of the curriculum for Students, Paediatricians, Surgeons, as well as leading and supporting the community and Nurses. Two further trainees should be identified to fill the needs over the next 10 years, with the view to having the next two surgeons in Mt Hagen and Rabaul.

Communications: Internet contact should be made available for the newly appointed surgeons to keep in contact with Australian and other International counterparts.

Paediatric Urological Disease: Despite repeated recommendations from the Paediatric Surgical visits, lives continue to be lost or adversely affected because of the delay in diagnosis of urological diseases, which would be improved by funding a project to look at the prevalence of urinary tract infections and associated renal anomalies.

Paediatric Surgical Nursing: As for the development of Paediatric Anaesthesia, working closely with the Paediatric Surgeon is important for skill transfer in relation to Nursing staff being trained in the perioperative management of Paediatric Surgical patients. Collaboration between the Paediatric Surgical and Nursing training groups is therefore highly desirable.