Paediatric Surgery Training in Papua New Guinea

MONAHP

A Report for February/March 1997

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Overview

The program aimed at developing Subspeciality Paediatric Surgical skills in Papua New Guinea has now been running since 1993. This trip was the sixth with the IDP/MONAHP managed project which is now linked with the Royal Australasian College of Surgeons' Pacific Island Project, of which there has been one visit. Progressively, the goals have switched from patient service and teaching students to empowering the local surgeons to manage patients and organise Paediatric Surgical services, the teaching program and future planning. Thus, two Paediatric Surgical trainees are now performing much of the surgery during the visits, presenting some of the lectures under supervision, assisting with exam preparation, collecting audit data and formulating plans for the service.

The major problems for the care of children with surgical disease remain the lack of infrastructure for the education of parents and the lack of support services within the hospitals and community. Further Paediatric Surgical training is warranted and future visits would appear appropriate and ideally should include education sessions for Paediatric trainees, General Practitioners and Nurses. Also, in order to facilitate year-round teaching and service, referral of elective Paediatric Surgery to two major centres and identifiying a Paediatric Surgical Unit in Port Moresby would assist. The formation of a dedicated Port Moresby team would be of particular use to the visiting Paediatric Surgeons, as would be the development of a Paediatric Surgical data-base. To facilitate the setting up of this registry, Dr Ken Boone has been presented with the details of the 207 cases operated on during my visits and has been given computer, supplied by the University Department of Surgery. Apart from assisting with the teaching of Paediatric Surgery, a properly maintained data-base will facilitate on-going audit and improved follow-up of surgical congenital anomalies.

Summary of Activities for 1997

Teaching

Teaching was conducted during the following sessions, involving mainly medical students and the Surgical trainees:

Ward Rounds	**21**
Theatre Sessions	**24**
Operations	**39**
Lectures	**9**
Tutorials	**6**

Ward Rounds: These were usually conducted in the morning and evening with the surgical resident staff and the delegated Paediatric Surgical trainees. The emphasis was on the diagnosis and peri-operative management of acute and elective cases, using the patients in the ward and their clinical senario as examples. Fluid and antibiotic management were of particular interest. An efficient paging system would facilitate both the care of the patients and the involvement of Port Moresby Junior staff in these teaching episodes.

Theatre Sessions/Operations: Operative sessions were particularly aimed at developing the manipulative skills appropriate to the treatment of children. As with other Paediatric Surgery training, the incumbents were given hands-on responsibility in keeping with the level of ability demonstrated at lesser tasks. Unfortunately, the participation of more than one of the resident/registrar at any one time was uncommon and communication was at times made difficult because registrar staff familiar with the patient were not present in the theatre. This seemed to stem from patients being recruited from multiple Units and the lines of responsibility not being firmly established.

Lectures: Student lectures were prepared by one of the delegate Paediatric Surgical trainees, which served to demonstrate the need for further education in teaching for the Surgical registrars. This supervision component was of great value to the project and to the trainee lecturer. The student assessment scores would usefully be made known to the presenter. Other presentations were given by the visitor to various Surgery Departments and the Huon Gulf Rotary Club.

Tutorials: Surgical trainees were the students for these sessions. The topics included, care of the neonate, neonatal emergencies, neonatal bowel abnormalities, embryology and operative Paediatric Surgery. These were enthusiastically attended and enthusiastically contibuted to.

Operative Surgery

The following cases were operated on during the visit, most by the delegated Paediatric Surgical Trainees:

Date	*Diagnosis*	*Procedure*	*Hospital #*	*Age (mths)*
3.03.97	Colonic stenosis	Lap/Right hemi		3
4.03.97	Incarcerated IH	Laparotomy + BIH,,		1
4.03.97	Imperforate anus	Pena - with plication	076269	19
4.03.97	Hyperplenism	Splenectomy	076950	121
4.03.97	Hypospadias	First stage		180
5.03.97	Hirschsprung's	Laparotomy + biopsies	083416	14
5.03.97	Absent testes	Laparotomy	101104	132
5.03.97	Neurogenic blad	Cystoscopy/Urodynamics		180
6.03.97	Epispadias	Cystoscopy	009067	84
6.03.97	Epispadias	Young Dees	009067	84
9.03.97	Hirschsprung's ?	Colostomy - revision	T2006872	60
8.03.97	Hypspadias	Duckett + Duplay	T2006879	64
8.03.97	Hypspadias	Magpi/chordee release		5
8.03.97	Vit-intest rem	Excision T2007480	266	
9.03.97	Vestibular anus	Colostomy,		48
10.03.97	Wound Infection	Debridement		36
11.03.97	Imperforate anus	Pena - with plication	331990	5
11.03.97	Udeka cyst	Excision 331991	5	
11.03.97	Hypospadias	Chordee release	331971	6
11.03.97	Patent Urachus	Excision of Urachus	331947	9
11.03.97	Pierre Robin	Gastrostomy	331947	9
11.03.97	Umbilical polyp	Excision	332003	48
11.03.97	Urethrovag fistula	Cystoscopy		84
12.03.97	Dysraphism	Excision 331156	9	
12.03.97	Cystic Hygroma	Excision	331989	36
12.03.97	Urethrovag fistula	Closure of fistula		84
13.03.97	Jejunal Atresia	Resection anastomosis	362755	1
13.03.97	Acute abdomen	Laparotomy/append		8
14.03.97	SCT/type II	Excision of SCT		2
14.03.97	Post Pena	Colostomy closure		3
17.03.97	Imperforate anus	Incision		2
18.03.97	Biliary Atresia	Portoenterostomy	268214	4
19.03.97	Anorectal anom	Colostomy revision	256971	156
19.03.97	Hypospadias	Urethroplasty -Johannson	256971	156
19.03.97	Hirschsprung's	Colostomy revision	268569	18
19.03.97	Laparotomy	Adhesiolysis	268534	96
21.03.97	Duodenal Atresia	Duodenoplasty		.1
21.03.97	Retained catheter	Cystoscopy	009067	84

Facility Deficiencies

***Ultrasound*:** Paediatric Radiology support for Paediatric Surgery is still suboptimal. Ultrasound machines are inadequate in Moresby and particularly in Rabaul: the Goroka machine needs servicing. Also micturition cystourethrograms are not yet satisfactory, often due to the lack of image intensifier facilities. The provision of an ultrasound machine in Rabaul, a machine with a printer capacity in Port Moresby and the teaching of Paediatric Radiology should be given priority.

***Baby Warmers**:* Now that most of the theatres are airconditioned, keeping babies warm has become more difficult. Most theatres use unsafe electric blankets keeping a baby warm, some without thermostats, which are dangerous. Overhead heaters and warming blanket should be available, but could be limited to those centres likely to be involved in protracted cases as the designated Paediatric Surgical centres.

***Theatre Equipment**:* Suture material for Paediatric cases, diathermy pads, diathermy pencils, Paediatric endotracheal tubes and ventriculo-peritoneal shunts are in short supply in all theatres. The supply of the first three items could be improved vastly by liasing with the Australian Health Departments and developing a policy of recycling of selected items under certain circumstances - as is already happening on an *ad hoc* basis.

***Hygiene and Infection Control**:* The construct of most of the wards is such that washing facilities are limited. However, a more significant problem appears to be the lack of routine cleaning, particularly of the toilets adjacent to the wards, especially in Goroka. The severity of this problem would appear to be easily ameliorated by recruiting simple means.

***Private Medicine**:* Private medicine appears to have drawn some excellent graduates away from the public system. These graduates are generally keen to continue to serve the public hospitals, but would only wish to do so if they could continue to spend part of their time in the private sector. Development of a compromise would probably be beneficial to the care of public patients.

***Organisation of Specialist Visit**:* Now that a large number of patients have been managed within the subspecialty training program, it appears that a co-ordinator is necessary to facilitate the return of patients for review and to ensure the availability of clinical teaching cases. The establishment of a data-base will be of assistance and the early forwarning of the visits will be necessary. The co-ordinator would ideally be one of the designated Paediatric Surgical trainees, recognising that this would require a proactive involvement in developing the time-table of events for each visit.

Recommendations

The following points would be likely to improve the care of children with surgical disease:

1. Use the data-base to arrange for patient follow-up both during and between the visits of Paediatric Surgeons.
2. Improved infection control measures.
3. Focus Paediatric Surgery in Lae and Port Moresby.
4. Identified Paediatric Surgical team in Port Moresby.
5. Involve the Paediatric Surgeon in lectures/tutorials for Paediatric Medical trainees and Nursing staff.
6. Purchase an ultrasound machine for Rabaul.
7. Recruiting specific recycled equipment from Australia.
8. A co-ordinator of Paediatric Surgery services and training visits be appointed.
9. Fund a study of the incidence of UTI's and renal anomalies.