

Fellowship Training in Paediatric Cardiology at the Red Cross Children's Hospital

A report by Dr. Proscovia Mujeere Mugaba; MBChB, MMED (Paediatrics and Child Health)

APFP fellow in paediatric cardiology - 2010/2011

1.0 Background

Over the last decade, the Uganda Heart Institute (UHI) has increasingly worked toward improving its capacity to care for patients with cardiac disease in Uganda. This initiative has received tremendous support from collaborating institutions with more advanced cardiology and cardiothoracic services. Tremendous progress has been made with more children receiving specialist attention; an increasing number of patients have undergone successful open-heart surgery at the UHI over the last three years. Currently, there is a tremendous drive to scale up the level of expertise to match the growing need and scope of cardiology services in Uganda. My fellowship training, funded through the African Paediatric Fellowship Program (APFP), at the Red Cross Children's Hospital (RCCH) in Cape Town South Africa, was timely and appropriate in this regard.

2.0 Aspects of my fellowship training in paediatric cardiology at RCCH

2.1 Preparation steps

Prior to coming to South Africa, I did not receive any information regarding the scope of this fellowship training. However, from my supporting institution in Uganda, I understood that the goal of APFP –funded fellowships was to provide training geared toward fostering the building of sub-speciality care teams in collaborating institutions in Africa. In retrospect, I think the lack of specification and agreement on the scope of training put me in a precarious position from the start.

2.2 Orientation phase

Prior to commencing my training at the RCCH, I had a discussion with my supervisor, Dr. John Lawrenson. He indicated that there was no formal structure for this training program. However, he briefly highlighted that at the end of my training, I would be expected to competently interpret paediatric electrocardiographs (ECGs), conduct diagnostic echocardiography and provide appropriate medical management in a rational way for children with various cardiac diseases. From the terms of my contract with the RCCH, I understood that I was expected to transitionally assume duties at the level of a senior registrar under supervision. There was no time-line provided for these activities. With these general guidelines, I started my training on 01/06/2010.

2.3 Clinical training

During the first six weeks, I mostly observed what took place on the cardiology ward while working alongside the team of doctors and nurses.

Subsequently, I was assigned duties on the cardiology ward which entailed looking after the children receiving care on this ward. These include patients who have undergone cardiac surgery, those admitted for optimisation of medical treatment, or those admitted for interventions such as cardiac catheterisation and surgery. This aspect of my training provided a good opportunity to carefully obtain a medical history, examine patients and review diagnostic test results (ECGs, echocardiography reports, chest radiographs and

lab results) as part of the full assessment of each child. This experience was boosted by the regular (at least weekly) review of patients planned for cardiac catheterisation during which I was expected to review patients and present my findings to a cardiologist. The cardiologist would in turn review each child and provide clarity on the medical history, examination findings, investigations and management plan.

With time, in addition to the regular ward work, I was also expected to join the team in the cardiac out-patient department (COPD) on Monday and Thursday afternoons. The scope of patients includes children who had undergone corrective or palliative interventions and were being followed up to monitor their progress. Each child's care was individualised in full consultation with one of the cardiologists.

Overall, this clinical exposure helped me to steadily improve my skills in evaluating cardiology patients with the aid of appropriate investigations. My knowledge in anatomy, physiology, pathophysiology and hemodynamic aspects of cardiac disease tremendously improved. Inevitably, certain misconceptions were thrown out of my mind and new facts were consolidated.

2.4 Training in surgical decision planning

I was involved in the pre-surgical evaluation of children with heart diseases requiring surgery. This was an extremely enlightening particularly because the discussions between the cardiologists and cardiothoracic surgeons helped to clarify why certain children had to undergo surgery at specific times and why different approaches were preferred for different children based on anatomy and hemodynamic aspects.

2.5 Training in invasive cardiology evaluation/intervention

From Uganda, training in aspects of cardiac catheterisation was indicated as highly desirable and would be an exceptional bonus of my training particularly because the catheterisation lab in Uganda was in its final phase of construction and other fellows in training would be introduced to this aspect of cardiology shortly after my return. Hence, from the start I marked this as an area to optimise during my time here.

I was allowed access to the cardiac catheterization lab where procedures are routinely performed on Wednesdays (and sometimes on Tuesdays) and Thursdays. The setback for me with the experience in the catheterisation lab was that sometimes it was difficult to keep track of what was happening especially since the meaningful discussions were most often involved only the people actively doing the procedure. I mostly had to glean from on-going discussions in order to learn a few things about each case performed.

Nevertheless, I learned a lot from what I read or observed, and what I heard the cardiologists emphasise during the process of obtaining informed consent and feedback to the parents after the procedure. I have gained insight into the indications for cardiac catheterisation for the various cardiac diseases, the preferred route of access to the area of interest, the intervention planned or the desired selective angiography or measurements expected from each case. I now have a better understanding of the potential risks of cardiac catheterisation and what is required in terms of patient preparation and parental information prior to undertaking the procedure. I also gained basic skills to help me interpret cardiac catheterisation images and hemodynamic reports.

Regarding the practical aspects of cardiac catheterisation, I discussed this with my supervisor, requesting for an opportunity to improve my practical experience. I was informed that this would not be possible for reasons that are beyond the scope of this report.

2.6 Training in echocardiography

This was the most challenging aspect of my training experience. For a number of reasons, I got minimal support in my attempts to learn echocardiography. At the end of the planned one year of my training in May 2011, I had scarcely got any opportunity to perform echocardiography. With the recommendation of my supervisor, funding for my training was extended for an additional six months to give me more opportunity to improve my skills in echocardiography. My supervisor indicated to me that the plan was to ensure that I could perform echocardiography well by the time I returned to Uganda; a proposal which I found most compelling and worth accepting.

Prior to embarking on my last six months of training, I travelled to Uganda to get some input on how to optimise my training according to the needs and expectations in Uganda. Following this visit, it was clear that I was lagging behind on what was expected of me in this area of my training. Hence upon my return to Cape Town, in the first months, I focussed on building my theoretical understanding of echocardiography. My goal was to develop a systematic approach to conduct each study with appropriate detail. With very little in terms of teaching or feedback, I found it very challenging to learn on my own given the fact that this is an entirely new field for me. In addition, I could hardly find time to consolidate this experience while balancing ward work and clinic duties.

Overall, I observed at least 1000 echocardiography studies. I had the opportunity to second-look on some of these studies as opportunity and time allowed. On my own I performed up to 100; about a third of which were done under real-time supervision by a cardiologist or more senior colleague.

Inevitably, this is an area where I will need more practical experience and guidance in order to reach the standard expected if I am to offer a service of quality to the children both here and back in Uganda.

2.7 Additional aspects

Aside from the clinical activities, my training experience also included other learning opportunities:

2.7.1 Attending regular academic discussions and journal clubs organised by the cardiologists. Although these were frequently not tailored for persons without vast knowledge and experience in cardiology, they provided a good stimulus for personal investigation around specific topics.

2.7.3 Conducting an audit of a specific group of children who had recently undergone cardiac surgery at RCCH. This study received scientific and Ethics approval from all the relevant authorities. I am working towards publishing the findings of this study.

2.7.4 Attending the South African Heart Association (SAHA) 2011 Congress in East London provided a good exposure to academic discussions in areas not routinely covered at the RCCH, including adult cardiology. The reports from other centres were certainly eye-opening; the new correspondences established will certainly be useful in future collaboration.

2.8 Wind-up of my training

2.8.1 I spent the last three weeks of my training, working closely with the cardiologists, cardiothoracic surgeons and the ICU team in the immediate post-operative care of cardiac patients. I had the opportunity to perform some post-operative echocardiography studies to assess outcome and cardiovascular status. This

time provided a good opportunity to consolidate my experience on how to assess operative outcome and planning of drug and fluid therapy.

2.8.2 I compiled a logbook of interesting cases of patients I had observed and taken care of during my time of training.

2.9 Assessment of Progress

2.9.1 There was no formal assessment throughout most of my time of training. However, I regularly performed personal evaluations to assess my progress based on the outline provided by my supporting paediatric cardiologist in Uganda. I considered the following areas necessary for fellows training to work in Uganda:

- Building experience and practical skills in diagnosing and treating children with cardiac diseases
- Developing care plans for children with cardiac disease
- Performing specialised ECG testing: Holter-ECG and stress ECG; interpretation of the same
- Building experience in performing transthoracic echocardiography
- Improving skills in handling children requiring critical care
- Building experience in preparation and obtaining access for patients undergoing invasive cardiology evaluation/intervention

At the end of my training, I was given an oral examination; I was examined by a panel of four cardiologists including a visiting cardiologist from Namibia. This experience was an eye-opener in many ways; it was another huge learning experience and one that I greatly appreciated.

3.0 Conclusion

Overall, this was a tremendous learning opportunity for me. I am still expectant to receive documentary evidence from my supervisor in the form of an assessment of my level of skills and knowledge which I will present to the Ministry of Health in Uganda.

3.1 Appreciation

I am deeply grateful to the sponsors of the APFP for this wonderful opportunity, particularly the generosity expressed in extending the duration of funding for my training.

To the APFP administrators during my time of contact with the APFP; Mr. Dominique, Uwizeyimana, Ms. Samantha Van Der Ross and Ms. Avril Du Preez; thank you for all your support offered in various ways.

I am grateful to the administration of the RCCH for graciously opening the door for me to work at this prestigious institution. What I have observed has inspired me into advocacy to solicit for support towards improved quality and scope of health care for children in Uganda.

To my supervisor, Dr. John Lawrenson, and the rest of the team in cardiology, your level of dedication in taking care of children with heart diseases will be an enduring reminder to give my best to each child in my care. I appreciate your input and look forward to future collaboration as I build my career in cardiology

Lastly, but certainly not least, I am deeply grateful to my family, friends, work colleagues and mentors back home in Uganda. Despite the distance I felt your support. Thank you for believing in me.

By Dr. Proscovia Mujeere Mugaba

CC: Dr. John Lawrenson, H.O.D Pediatric Cardiology, University of Cape Town/ RCCH

CC: APFP Chair

CC: APFP Administrator