

A Zambian medical elective

Will Andrews, *November 2004*

Background to Mukinge

Mukinge is the only hospital in 16,000 square miles. The nearest government hospital is 120 miles away in the next district. The Hospital has 250 beds with a 95% occupancy rate and about 350 outpatients visit daily. Many of the patients come from distant cities where national medical care is unobtainable. The hospital runs a number of community health centres in distant villages which deal with minor conditions, referring the complex cases to Mukinge. Leprosy clinics, eye clinics and AIDS clinics all operate either on a mobile basis or in the heart of communities within the catchment area to try and address the huge burden of need in this area of central Africa.



Mukinge Mission dates back to 1925 when C.S. Foster came to introduce the Kaonde people to Christ. There are now at present 90 descended churches in the area. Foster's son founded The Kaonde Hospital which was opened by the British Governor-General in 1952. After independence tribal names were banned and the hospital became 'Mukinge'.

The Hospital is divided between separate ward buildings for general medical patients, surgical patients and a maternity ward delivering 1,000 babies a year. There are also paediatric wards, an isolation ward, TB wards and an area for rehabilitation. Operating facilities are excellent considering the situation with two theatres and a reasonable range of instruments for general, orthopaedic, and eye surgery. There is a laboratory run by a medical technician with two assistants and is capable of doing a few haematological tests including blood culture and sensitivities, serology for HIV, electrolytes, and a limited run of low-tech lab tests. The hospital has prehistoric stationary and portable x-ray machines, an outpatient department and a pharmacy with basic drug supplies (including antibiotics) being consistently on hand thanks to donors who allow overseas purchase. The hospital operates a nurses' training school for forty-five girls which offers a two-year course leading to an enrolled nurse certificate and also a secondary school for nationals. Attached to the hospital is Mission Flight Zambia, a small light aviation organisation. The planes are able to make urgent transportation of people and equipment possible over the vast distances involved.

Zambia, along with much of sub-Saharan Africa, has a horrific AIDS problem. An Ethiopian recently said to me 'to you it is just a medical problem; to us it is the destruction of our entire social structure.' 20% of Zambians are HIV positive and 1.6million children are AIDS orphans. It is estimated that 75% of Zambian families have children orphaned by AIDS. Mukinge has a full-time AIDS team which seeks to educate and distribute drugs in an intelligent and culturally appropriate way. This area is a hotbed of rare and interesting infectious disease. In the 1960s an American physician declared himself an expert on Rhodesian Sleeping Sickness having seen 5 cases of the rare disease and wrote an article on the subject in the *Lancet*. Dr. Foster at Mukinge wrote to the journal saying that he had seen 350 cases in the last 5 years, did they want any further details!

My Experience at Mukinge

I arrived at Mukinge four days later than expected. The journey from Lusaka was a long one. I had started out from the mission headquarters at 3.30am to catch the 4.00am bus which eventually rolled out of the central terminal at 5.30am. The untouched countryside of mid-Zambia flew by in a blur punctuated by the flapping curtains as the coach negotiated the single lane highways with alarming velocity.

My wife and I had come out to Zambia 11 days earlier to have a week's holiday in Livingstone by the Victoria Falls before I moved on up-country for six weeks. The hospital had not been able to accommodate me for the initial fortnight as the previous student was not due to leave until then. So we thought it wise to use the time to begin a leisurely start to the adventure and a fitting way to begin a seven week separation.

Eighty miles an hour covers distances tolerably quickly in the UK but the same speed does not faze the vast plains of Africa. Like running on a treadmill the scenery remains unchanged for painful hour upon hour. It was 2.00pm, '14hours' as they call it in Zambia. The coach had been maintaining its unrelenting pace, with only the most infrequent and impatient stops for necessary relief and further passengers, for eight and a half hours. We reached the Copper belt. The deep, dusty interior where open cast mines, large enough to swallow cities whole, provided the income for the otherwise characterless conurbations around them. Still we were hundreds of miles away from Solwezi where I was to change and find transport to take me the 4 to 7 hours journey to the hospital. The time depended on the age of the vehicle, the conditions and the cargo. As the shadows lengthened the bus finally scrambled powerfully up the long hill into the centre of Solwezi, a dusty strip of road lined by thousands of people and hundreds of hastily erected buildings. It finally stopped as if gasping for breath at the bus-stand amongst a maelstrom of people and colour. The engine was quiet for the first time in 11 hours of blasting through the suffocating dust and heat. 50kg of food and clothes I had brought with me were dragged off and loaded precariously onto the trailer of a blue minibus waiting ambitiously to transport as much as possible as far as possible. The holiday of a lifetime we had enjoyed in Livingstone seemed a world away not least because of what had happened in the meantime. On the morning we were to depart from the Livingstone Debs had suddenly fallen very ill and was admitted to hospital. I spent days organising and re-organising 'plan Bs' as Debs lay confused and unable to leave her bed. It had been the 5th day after our planned leaving date when she was well enough to walk and put on the face required to convince airline officials to take her back to the UK. Thus I arrived at Mukinge four days late after a shortened briefing at the mission HQ in Lusaka.

Driving off the road down into the hospital grounds was a refreshing surprise. The buildings lay nestled in the shadow of Mukinge Hill, above a river, surrounded by blossoming jacaranda trees and ripening lemon groves. They were clean and colonial in style surrounded by a white picket fence with the Zambian flag fluttering proudly at the top of a flag pole on the lawn.

That night I had a generous supper with three of my new colleagues by candlelight, not so much a romantic luxury as a frustrating necessity. The

generators were off for the night. The next morning I woke up in my little bungalow 30 yards from the hospital entrance and on emerging into the bright sun found myself in the centre of a cohesive, productive and wonderfully friendly community. Western missionaries and Zambian nationals were living and working together doing what each could to bless those seeking help from the hospital. Refreshingly, out of a spirit of genuine humility, the balance of responsibility was being actively shifted from the traditional provider of western healthcare to the emerging generation of skilled Zambians. It was an interesting transition to watch taking place. The Evangelical Church in Zambia now owned and oversaw the hospital; its Bishop was the general visionary of the lines along which Mukinge was run. SIM, the international mission organisation who had founded it 70 years ago and still staffed the missionary jobs there, were seeking ways to withdraw and leave Mukinge entirely in indigenous hands. Mukinge nurses school provided a constant supply of nurses. Clinical officers, chaplains, administrators and other support staff were all Zambian. However the difficulty lay in recruiting doctors. Zambia has a faltering supply of medical graduates emerging from its one university. It often takes 10 years to do a 5 year course due to the uncertain nature of the infrastructure and resources. The doctors who do emerge almost all disappear into lucrative ventures within or out of the country. For a hospital like Mukinge who can afford to pay minimal salaries at best and who get the western doctors for free there is no way to compete. Mr. Fumpa, a brawny local man in his late 30s is the Mukinge Ophthalmic surgeon and the pastor of one of the local churches. With no medical degree, skills gleaned from visitors and with ageing equipment he manages to do hundreds of cataract operations a year with enviable success. Perhaps that is the way forward! So it was into this scarcity that I was introduced that day. The director of the hospital was a young dynamic American Internist who was doing very little clinical work to concentrate on the numerous other tasks which required his attention. He briefly told me that I should get involved any way I could acting as a doctor but referring to those qualified if I was in any way out of my depth. That week in this 220 bed hospital, full of acute medical and surgical patients, there was one physician and one surgeon on the wards.

I began on the medical side for the first few days whilst I got used to the new surroundings. Much of my diagnosis and proposed management was wildly off beam. I was trying to transpose the rarities seen on the wards of tertiary referral centres in London onto the inhabitants of poor, tropical farmland where the average life expectancy is 32 years old, diagnostic aids barely exist and treatment is difficult. Most incongruent syndromes turned out to be some systemic manifestation of TB, disseminated malignancy, or the result of an immune system savaged by HIV. Each time the staff was enormously kind and picked up on my mistakes turning them into gentle learning experiences. The first day I saw a few things that I found difficult. One was a 28 year old man with a thrusting cardiac apex, displaced to his mid axillary line and visible from the end of the bed. He had not been able to work for years due to breathlessness. With no valve replacement service available in Zambia he had no earthly hope. I was shown a chest x-radiograph on my first day and asked what I thought. I laughed and said that I would order another one as it was barely possible to make out a single structure. I just assumed it was a trick such as is often played in London hospitals when a very poor film is set before you. The doctor half smiled and went on to point out the pathology through the haze. Wanting to redeem myself I pointed out another feature I thought might reinforce the findings he had just pointed out. 'No' he said 'they are drip marks from where the film has been left to dry in the sun.'

I spent 3 weeks with Ernie the Surgeon. He was a substantial man, mature and courageous way beyond his 36years. He was Singaporean with his FRCS from Edinburgh. The surgical cases varied in complexity. Most were done with ketamine anaesthesia. Nurse led intubation with bag and mask ventilation and muscle paralysis was only used if absolutely necessary. In the first week he handed a case of a circumcision over to his theatre helper and myself. He stood at the back of the room and encouraged us to get on with it. From then there were many cases of abscesses which I would be given to drain. Some would track down tissue plains and yield almost a pint of stinking pus. The more complex surgeries were always a difficult area to address. There was no support, no advice to be had, no qualified staff in the theatre and often he had never attempted such a procedure before. If a patient died in theatre it was a PR disaster even if they would have died from the disease that day anyway. Often the family believed that the white doctors had purposefully killed their relative. So there was little room to fail. If the operation looked to be going badly the best option was to close up and send the patient back to the ward to die with the relatives. In the most borderline cases Ernie would pray and fast for the preceding days to try and discern whether he should attempt the surgery or not.

One of the largest operations whilst I was there was to remove a kidney from a five year old girl called Francina. She weighed less than the average 2-year old in the UK. Her limbs had no flesh but her abdomen was huge. On examination it was plain that there was a solid mass filling the entire peritoneal cavity. It was so large that it was impossible to know what structure it was. We made an incision from her xiphisternum to her pubic symphysis. The internal pressure split her open like a baked potato. The structure was plainly a massive right kidney. Four hours of dissection and levering delivered the kidney. It was well contained still within its capsule but it had eroded through the diaphragm superiorly and was resting deep into the pelvis. The aorta and vena cava had been deviated far to the left and were firmly adhered to the tumour. Tying off tributaries was extremely difficult. Excising the tumour removed a third of the child's weight. 3 days later she was wandering around the garden, attentive and curious.

The 'wazungu' (white man's) hospital was usually the last place people would come to seek treatment. It was difficult to find a patient who had not first tried the witch doctor and bore the scars on their backs. Consequently many admissions were very ill and beyond medical help. Many children came in this state. Once or twice I was called to see a child who had been very ill only to find them pulseless and cold. Death seemed to be a regular feature of Zambian life. On my last day I was asked to see a girl who had come in because she had suspected malaria. On examination the girl was in severe pain and again had huge kidneys, liver and spleen to the extent that her kidneys especially were deforming her loins. With some of these patients we would just spend time with them and pray with them. I remember a woman who came in dying from postpuerperal sepsis. Her husband was left holding the baby helpless and in tears. Even in the short time I was there I witnessed so much locally unavoidable death and its aftermath it became part of the tapestry of experience that made up each day.

There were several patients who will remain vivid in my memory for years to come. They were patients whose condition was so colourful (for want of a better word) that one could not fail to be amazed. One was a young man of 17 from the local high school who came in coughing up blood after a few days' diarrhoea and vomiting. The next day he was vomiting blood, expectorating blood, crying blood, micturating blood there was blood in his stool and his venepuncture site would not stop bleeding. His nose bled so heavily throughout that time that the packs had to be continuously changed. His brother gave 2 units of blood to transfuse him. He sat there shivering and hiccupping, unsleeping for days asking for a doctor. Intravenous antibiotics and fluid management was our best empirical management of what we assumed must be a DIC after septicaemia. His whole class came to visit him each evening and sat dejected in the hospital grounds waiting for him to die. He became less and less well each day maintaining a temperature of 40C. The bleeding would not stop for eight days. When Ernie and I were leaving theatre one day when the illness was at its worst I began to say that I didn't fancy his chances of surviving much longer. How could he? Ernie, who the evening before had expressed his doubts and who wasn't treating him just replied calmly "he won't die," and then murmured "God told me last night." Sure enough, the boy began to recover, 7 days later he returned home.

One morning I was doing a ward round and I met a man on the surgical bay who had been admitted the night before by the duty sister. His story was that he had been on truck coming back from a football match when the vehicle had overturned. He had been admitted to the large government hospital in Solwezi because of his injuries. His thumb had been put in plaster but apart from that he had not seen a doctor in 2 weeks of being an in-patient. I took his history and examined him. He described still having a sore arm and shoulder and added that he had had a headache since the crash. I ran my hand over his head to feel for any clues. On the top of his head he had a giant depressed, jagged skull fracture 7cm by 7cm; previously unnoticed and untreated.

Another patient was a 40 year old who was admitted with a scrotal swelling beyond his knees. In terms of his physique he was skin and bone.

Superimposed on this he had an abdomen the size of a barrel and this huge scrotum. Both were taut with the volume of fluid they contained. He had been living, farming, socialising like this for 20 years without presenting. It was unclear to what degree his excessive homebrew intake aggravated what must have been an old infective hepatitis. It was also unclear what we were to do for him as tapping the fluid is such a short term measure and spirinolactone has not reached Zambia yet. I asked him if he wanted to stop drinking. He said he did. He recognised it didn't help relations with his wife or his condition. It was difficult as village life revolved around beer. First line therapy in many cases in this hospital was prayer. People came to Mukinge if what the witchdoctors had offered had failed. Treatment in their culture always was primarily a spiritual matter. Much of village life was lived in fear of spirits. To advance oneself in whatever area one just had to find a witchdoctor who was the priest of a more powerful spirit than one's rival. It was a source of deep mistrust and suspicion in the village communities. Sacrifices to the spirits were often elaborate and did not uncommonly include child sacrifice or child rape. The Zambians were in no doubt as to its power. Signs and wonders were common and expected. Most came to the hospital hearing that it was based on a faith in a God who had created everything, loved mankind and, perhaps most importantly from their point of view, had authority over demons and death. It was common that a patient would come to hospital with a condition which was then successfully treated but would leave bitterly disappointed as no-one had introduced them to this all-powerful Jesus character they were hoping to meet. So I asked the alcoholic gentleman whether he knew Jesus. He mentioned that he had heard about him. The man prayed to God that he would be set free from the alcohol, he threw away his secret stash of homebrew stored in petrol cans under his hospital bed and began the long road to recovery that morning.

The anecdotes could roll on for a long time, anecdotes about psychiatry patients being brought in in shackles and chains; stories about spending nights in distant villages in mud and straw huts as guests of the locals and much more.

I had been there 4 weeks when I received a call from home. It turned out that my wife had not got better in the UK and had been in and out of hospital with the same symptoms. On the phone she was tearful and scared because on top of the GI symptoms she remained headachy, confused and disorientated. She had not been referred to a tropical disease specialist and no follow-up had been arranged on her care. Three blood slides in different places had been negative for malaria and that seemed to be where the UK system for dealing with tropical disease had stopped. The persistent neurological symptoms alarmed me and the doctors at Mukinge. One thing about much of the endemic disease of the African bush is that it often becomes cerebral and very serious if not treated quickly and properly. So with a little anxiety I returned to London as fast as possible, 2 weeks ahead of schedule.

0 comments

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Urgent Prayer Need

Pray for the country of Nigeria - for peace to be restored, and for the Lord's comfort for all those affected by the recent violence.