Always on call

Corry Chapman

Lancet 2008; 372: 2162–63

Correspondence to:
Corry Chapman, 408 East Monroe Avenue, Alexandria, VA 22301, USA
corrychapman@gmail. com

It was ten in the morning in central Sudan and already blistering hot. We nearly suffocated in our tiny clinic room. One window, no fan, and countless patients with malaria.

A young woman entered, wrapped head to toe in a dress and scarf despite the heat. She murmured her story in Arabic, staring at the ground. Her 3-month-old baby was sick. He had been born "different", blind in one eye, his head too small, but a good eater with a strong cry. The bump on the bridge of his nose had at first seemed like nothing. Then it started to grow, and now he couldn't eat.

We asked to examine the baby. The woman reached into the folds of her dress and produced a bundle wrapped in yet another scarf. The bundle coughed. We saw the mass first, like a second head protruding from the baby's face, skin stretched tight from forehead to nostrils. It was so large that it obliterated the anatomy of his nose. It pressed on his nostrils, squeezing them shut. The mother put the squalling child to her breast. He couldn't breathe. He sucked, choked, cried.

Dr Tom Catena looked up from the baby to the woman. "I'm sorry", he said in Arabic. "You need to go to Khartoum."

She didn't respond. She struggled to breastfeed. We knew that she had no money, no transport. Khartoum was hundreds of miles away. But we also knew we were seeing a cephalocele, a protrusion of brain and fluid from a hole in the infant's skull, a hole he'd been born with. Fixing that hole was the job of a paediatric neurosurgeon, not two family medicine doctors.

Finally she looked back at Catena. "Please help", she said. The baby screamed.

I worked with Catena for 5 weeks at Mother of Mercy Hospital in Sudan, in the remote Nuba Mountains, a wilderness reachable only by UN planes delivering food. It is an 80-bed Catholic hospital that serves a population battered by 50 years of civil war. It is also the only surgical hospital in central Sudan. Mother of Mercy opened in March, 2008, with a permanent physician staff of one: Catena. He is an American doctor who has worked in Africa for a decade, first in Kenya, now Sudan. He trained in family medicine in the USA and in general surgery in Kenya. He is the hospital's medical director and the only one who applied for the job. He arrived on site a week before the hospital opened.

"It was a nightmare", he told me. "We had 7 days to get the place going. We learned as we went. None of us had set up a hospital before."

Physicians interested in working with Dr Catena in central Sudan should contact Hellen Mwangangi at hellen@doe.co.ke. Long-term commitments of 6 months or longer are preferred, but any help would be welcome.

He recounted how hundreds of patients showed up on opening day. Hundreds more came the next day, and the next. They presented with malaria and pneumonia, with injuries, and in shock. They came after days of failed labour, usually with a baby dead and wedged in the birth canal. They arrived at all hours, in the hottest and driest time of the year, often walking weeks to reach the hospital. They waited hours to be seen, overflowing the hospital's courtyard. For 15 Sudanese pounds (about US$7), the sickest people were admitted and paid nothing more. Some stayed for months, recuperating from major surgery or waiting for a bone to mend. They crowded the wards of the hospital, a chaos of mosquito nets, intravenous poles, wailing babies, skulking dogs, oppressive heat, and the stench of unwashed bodies.

Those first months took a toll on Catena. He got malaria twice. He dropped 50 pounds. He never left the compound. Surgical emergencies arrived daily, often nightly. Catena worked in an isolated region with no cities or government and no other doctors nearby. He managed a hospital that relied on solar power, pumped water, and pit latrines, its small storehouse of supplies replenished only twice a year by cargo plane from Nairobi. Everything was limited, nothing could be wasted. Catena stretched his drugs, suture, and physical energy as far as they could go to treat overwhelming need. It nearly broke him, but the effort paid off. By the time I arrived, the crowds were still large but manageable and the hospital ran well.

On my first day there I saw one patient with leprosy, two with tuberculosis, and 50 with malaria. We removed a man's prostate because he could not urinate. We admitted a baby with meningitis, the top of her head bulging and tense. Over the next few weeks, I saw diseases that I see in the USA: diabetes, hypertension, stroke. I also saw bowel parasites, pus-filled eyeballs, starvation, and goat faeces poked up a girl's nose to stop a nosebleed (a local remedy).

We operated a lot: an emergency caesarean section when we delivered a premature baby and strapped him between his mother's breasts to keep him warm and alive, ruptured ectopic pregnancies, many urological operations, some bowel surgery, a thyroid operation. We amputated legs and fingers. Sometimes during an operation a fly would settle on exposed bowel or muscle. The anaesthesia technician had to chase it around the room, trying to kill it.

I quickly grew tired of drinking only tepid water or hot tea; of lentils and rice for dinner; of working all day and sometimes all night, and then, when I had free time, of having nothing to do and nowhere to go. Most of all it was the heat that got to me, sweltering on my cot under a mosquito net, dreaming of cold beer.

The patients seemed only to tolerate us. They didn't trust us any more than they trusted the genocidal government in Khartoum. They needed help and were resigned to our care. No teary thank yous, no smiles even; just sullen silence. When we asked family members to give blood for an operation, they flatly refused and some even fainted. The patients did not wash their wounds,

which promptly became infected. They spat everywhere. The nurse aides, also Nuba, barked at those who were sick like they were animals, occasionally swatting them on the head. Getting a history of a disease or injury was almost impossible, even with four nurse aides shouting Arabic at a patient whose only response was a click of the tongue.

The hospital laboratory did five or six basic tests, including blood smears for malaria and haemoglobin for anaemia. The pharmacy dispensed painkillers, three antibiotics, a few chemotherapeutic drugs, and loads of antimalarials. Catena carried a portable ultrasound machine, his only means of looking inside someone's body since we had no X-rays.

By my third week, I fully appreciated the limitations of Mother of Mercy Hospital, but I had also seen Catena work wonders every day, doing things it would take a team of specialists to accomplish back home. I thought he could handle almost anything. Then the baby with the cephalocele showed up. It intimidated both of us, I think; I know it scared me. I didn't expect Catena to tackle neurosurgery any more than I thought he'd attempt a cardiac bypass.

But the baby was starving. No one else could help. Catena hesitated, thinking. He put the ultrasound to the mass, which mostly looked like it was full of liquid. Not much brain. "We will see what we can do," he promised the mother.

That night we researched the case on the internet, which came to us via satellite on a laptop. The hospital has no telephone or mail but it does have the internet. We found a paper describing 16 cephalocele repairs. Most had been fixed like hernias, without having to enter the skull. Simply dissect the sac, tie it off, remove it, and patch the hole in the head. Any brain in the pouch was usually scarred and resectable. But the last step was the problem. How do you repair the defect and prevent reoccurrence? How do you prevent leaking?

We learned from the internet that most neurosurgeons use bone grafts taken from the skull, rib, or hip. Our baby was tiny and deformed. Catena didn't feel comfortable harvesting bone: take a rib and you might perforate the lung; shave off a little skull and you might go too deep, create another hole, or cause bleeding around the brain. There was probably not much bone in the baby's hips. Catena decided to focus on the resection and hope there was enough material around the defect to make a decent patch.

We explained the risks of surgery to the child's mother: death during the operation, leakage, infection. Maybe she understood. "It's up to God," she said. She came to the operating room door to hand over her son.

The anaesthesia technician tried to sedate the baby. He started with a gas, but the facemask would not fit over the huge mass. The baby screamed, urinated, and flailed his arms, fighting us off. The technician pushed an intravenous sedative, then quickly tried to intubate him, but the tube would not go in. None of us could do it. We tried for an hour, the baby often waking up and screaming. Finally we gave up. The technician knocked him out with intravenous medicine alone, hoping he wouldn't suddenly stop breathing during the procedure.

I prodded the skin over the sac. It felt like the only barrier between cerebrospinal fluid and room air. Catena carefully incised it and peeled it back, exposing a meninges-like membrane pregnant with fluid. It ruptured. Clear liquid poured out, deflating the sac. Catena worked fast, freeing up tissue, searching for the hole in the baby's skull. As the sac collapsed, we saw fragments of brain inside, which looked shrunken and pale.

Eventually he exposed the cranial defect. It was large, more than an inch wide. A sharp ridge of bone jutted up from the top of it, as though the brain had burst through the skull. Catena carefully tied off the sac, cut and removed it without a change in the baby's pulse or breathing. Catena next tried to patch the hole by stitching together what appeared to be membrane and then pulling down the skull ridge, suturing it to tissue around the defect. When he finished, the hole was covered by bone and what felt like firm tissue. Catena closed the skin next. He trimmed the excess and tried to return a normal shape to the baby's nose.

The baby woke up shortly afterwards, out in the ward with his mother. He cried, hungry. He fed without choking. He lived through the night. The next morning, there was no leak. He was still alive and doing well weeks later, and was discharged home.

The day I left Sudan, Catena rode with me down to the airstrip. Halfway there, a truck coming the other way flagged us down. A woman lay in the back, pale and listless, staring up at nothing. Another ruptured ectopic pregnancy. Catena accompanied her back to the hospital and I caught my plane. It took me nearly a week to get home.

In 2011, Sudan votes on whether it will remain one country or separate into north and south. Most people I talked to there fear another war. Catena is staying. He expects to be in Sudan for years, operating, treating malaria, and trying to start a prenatal-care programme.

My patients often bemoan the disappearance of the traditional doctor, the general practitioner who could treat any ailment, deliver babies, and stitch wounds. I do too. In Sudan, I saw a single well trained primary-care physician run a large hospital. I try to imagine what a doctor like Catena could do in the USA, where family medicine residencies cannot fill their slots, millions go without health care, and the best and brightest medical students want to be dermatologists. I think he would be appalled by our glut of specialists and our huge insurance bureaucracy. But he would have plenty of work. He is sorely needed here.

He is, of course, sorely needed in Sudan too. He is one of those remarkable physicians who dedicate their lives to international medicine. With great passion and hope they pit themselves against mountains of suffering, tirelessly chipping away.