Rotaplast: An Adventure in Anesthesia

Sherri B. Ross, D.O.

I recently had the opportunity to go on a Rotaplast medical mission to Santa Cruz, Bolivia. It was sponsored by Rotary International, which was founded in 1992 by a plastic surgeon, Angelo Kapozzi, M.D., and a man named Peter Lagarius, a Rotary Club president looking for a service project for his members. The idea was to assemble a group of volunteer anesthesiologists, surgeons, nurses, speech therapists and orthodontists along with volunteers from local Rotary Clubs to travel to third-world countries and provide plastic surgery for children with cleft lips and palates. At the University of North Carolina, where I am in training, we have many attendings who participate in these trips several times a year, and last November, I joined Ann Bailey, M.D., one of our pediatric anesthesiologists.

The first question people had for me when they found out I was going was, did I feel safe? To ensure the safety of all its volunteers, Rotary International keeps a finger on the pulse of political activity and maintains constant contact with Rotary Clubs around the world. In fact, Dr. Bailey and I were originally scheduled to go to Venezuela in September, not Bolivia in November. A few months before we were leaving for Caracas, we received word that the trip had been canceled for safety reasons. Conditions in Bolivia were safer, and as soon as we arrived, we were placed in the care of a local Rotary group that arranged transportation and lodging and provided meals during the long days of surgery.

Rotaplast is a unique organization in that it pays all airfare, lodging and food expenses for the medical team. This is an important point for residents who want to go on a trip because many medical mission programs require participants to pay their own way. Signing up for the trip was very easy: I found the Rotaplast Web site, looked at the dates of available trips and called to see which ones still needed anesthesiologists. Then I filled out an online application and sent copies of my North Carolina medical license and medical school diploma. After obtaining my passport and vaccinations, I was cleared to travel. Although it was not necessary to be fluent, it did help having some high school and college Spanish under my belt. However, if you are thinking about a medical mission trip, the most important thing you will need is the desire to help people and to be adaptable to any circumstance.

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In anesthesiology, we all know that flexibility is key; the same thing is true on a medical mission trip. Equipment and resources are scarce in the Bolivian medical community. There is nothing disposable; everything has the potential to be recycled. The sterile water for the operating room was stored in discarded wine bottles that were used over and over until they became chipped or broken. We made our own humidified oxygen delivery system in the postanesthesia care unit with duct tape and water. We reused the same anesthesia circuit at least 20 times. To recycle the endotracheal tubes, we would quickly wash them out after extubation so they would be ready for the next child. We had a single 3.5 tube, and by the end of the week, it had so much tape remnant on it that you could barely make out the numbers. Luckily, we brought portable monitors. I heard stories about previous trips where each day a different operating room would get one monitoring device, either an electrocardiogram, automatic blood pressure cuff or a pulse oximeter, but never an entire monitoring system. Nevertheless, there were times that the monitors we brought malfunctioned or there were not enough American standard adaptors, and the batteries would die. So I found myself palpating a dorsalis pedis blood pressure, looking for cyanosis and just listening with a precordial stethoscope. I never realized how much I take the automatic monitors for granted.

While we were there, I used halothane for the first time. I know that it is still available in the United States, but

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many training programs, including North Carolina, do not use it any longer. Typically, residents' only exposure to halothane is what they read for the boards. I knew that the MAC of halothane is 0.75 percent and that it can precipitate dysrhythmias, particularly if given with epinephrine. This was driven home in Bolivia when one of the surgeons injected the maximum amount of lidocaine with epinephrine into the patient's skin. Minutes later, I noticed a PVC, then another, then multifocal V-TACH! We had just given a maximum dose of lidocaine, the only available antidysrhythmic, so I turned off the halothane and called for the defibrillator. Fortunately, the patient converted to sinus rhythm before I had the chance to test their defibrillator.

It was truly heartbreaking to see the number of children who were born with cleft lips and palates that had never been able to get them repaired. There was a beautiful teenage girl who had grown up with a cleft palate and had developed a speech defect because of it. Although she would still be unable to speak normally, we performed her surgery so that when she eats she will not have to worry about liquid or food coming from her nose. Just two months prior to our arrival, a baby girl was abandoned by her mother at the hospital because she had been born with a cleft lip. The nurses named her Lola and floated her around the hospital from ward to ward until we arrived to repair her lip.

We were also able to help two unexpected patients who did not have a cleft lip or palate. The first was a 12-year-old boy who had been burned in a fire; the second was a man with ichthyosis, a condition in which the skin is keratinized like fingernails. The boy had developed facial contractures that prevented him from closing one of his eyes and his mouth. We were able to perform skin grafts so that he could close his eye, and for the first time since his accident, he could close his mouth and smile. The man with icthyosis did not have any eyelids, and the surgeons were able to do grafts so that he, too, could close his eyes against the dirt, dust and glaring sun that were so prevalent there.

By the end of the week, we had performed multiple surgeries on 67 children. It was hard work — we started early in the morning and did not stop some nights until almost 10 p.m. I left Bolivia exhausted but with a sense of purpose and fulfillment when I returned to the United States. I had actually been on several medical missions before, but this was the first trip for which I had administered anesthesia. On previous trips, I went as a general physician and treated things such as lice, scabies, pica, high blood pressure and diabetes. We gave out vitamins, hypoglycemics and antihypertensives, but it was disheartening to know that within a month or two, the medicines would run out. On this trip, we know we made a permanent medical difference. These surgical procedures would provide lifelong relief for 67 children who had been born with facial deformities or cleft palates.

The one thing I noticed is how many of the medical volunteers had been on the Rotaplast trips before; I think it is just indicative of how amazing the trips are. Once you go, you want to keep going back. I know I will.

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decisions, on the role of the anesthesiology consultant and on evidence-based medicine and can provide invaluable tools in broadening the educational experience of any particular residency department.

In conclusion, international engagement seems to be increasingly difficult but remains both possible and rewarding. An open exchange of education, services and research can only strengthen the field of anesthesiology both at home and abroad. Finally, I hope that by the time this issue reaches you, the world feels more secure.